AN ANALYSIS OF SECURITY MEASURES IMPLEMENTED ON COMMERCIAL PRIVATE GAME RESERVES IN LIMPOPO

by

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I further declare that I submitted the dissertation to originality checking software and that it falls within the accepted requirements for originality.

I further declare that I have not previously submitted this work, or part of it, for examination at Unisa for another qualification or at any other higher education institution.

24 February 2020

SIGNATURE DATE

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EXECUTIVE SUMMARY

South Africa presently experiences high levels of crime daily. Although crime is accepted as an everyday occurrence for its citizens, it affects the economy of the country. This study analysed security measures implemented on Commercial Private Game Reserves (CPGRs) in Limpopo and the impact of crime thereof. CPGRs are enclosed areas containing various species of fauna and flora. Visitors from domestic and foreign origins visit these reserves to enjoy nature and its tranquillity.

This study analysed the security measures to determine their effectiveness for CPGRs. The study further explored the use of security risk management strategies and risk assessments as crime reduction tools. The study was carried out using a case study research design. Data were collected by the researcher using three methods: observation, onsite checklists and semi-structured one-on-one interviews which were conducted on site. Validity and reliability indicate the trustworthiness of the study. The researcher reduced the data gathered through the use of thematic data analysis. Interviews were transcribed and themes were created and identified by the researcher.

The comprehensive data indicated the importance of a security risk manager on a CPGR. The research found that very few security risk managers are employed and that managers of security risks employed on CPGRs have various titles. However, while the CPGRs have similar risks, their risk reduction strategies vary. The most commonly used measures are people, physical and technological measures with each having various subdivisions.

The security measures implemented by CPGRs in the Limpopo province which were analysed are not formulated using a scientific approach as most properties do not make use of a formal security risk assessment. The study is deemed valuable as a model was developed from the findings that could be used by game reserves to guide them to apply relevant security measures.

A formal security programme is often limited due to financial constraints of the reserve or the reserve owners, however, not all strategies should be considered as a financial

expense as much can be done without exhausting financial reserves.

The findings contributed to making recommendations to improve the overall security of CPGRs. This study encourages more research into the subject to improve the security industry and to stimulate the tourism industry.

KEY TERMS: game reserve security, eco-tourism, security risk management, risk assessment, crime prevention, risk reduction, crime risks, security risk manager, security risk countermeasure, corporate responsibility

LIST OF ABBREVIATIONS

BDF	Botswana Defence Force
CCTV	Closed-circuit television
CIT	Cash in transit
CPF	Community Policing Forum
CPGR	Commercial Private Game Reserve
CPTED	Crime prevention through environmental design
DHS	American Department of Homeland Security
EPWP	Expanded Public Works Programme
GIS	Geographic Information System
GR	Game reserve
NGO	Non-Government Organisation
OHS	Occupational Health and Safety
PSIRA	Private Security Industry Regulation Authority
SA	South Africa
SAPS	South African Police Service
SRM	Security Risk Manager
USA	United States of America

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CHAPTER 1
PROBLEM STATEMENT AND OVERVIEW OF RESEARCH STUDY

1.1 INTRODUCTION

Tourism, as one of the biggest industries in the world, has many benefits for tourist organisations worldwide. Amongst other benefits, tourism has the potential to improve the social and economic environment of host communities, destinations and countries (Edgell, 2006:1; McIntosh, Goeldner & Ritchie, 1995:23). One of the biggest attractions in the South African tourism sector is nature-based tourism or ecotourism. Several million tourists are attracted each year to South Africa's fauna, flora and varied landscapes as they have enormous recreational value (Government Communications and Information System, 2017:7). Balmford, Beresford, Green, Naidoo, Walpole and Manica (2009:1) state that nature-based tourism is estimated to generate as much as the combined income of farming, forestry and fisheries across southern Africa. Balmford et al. (2009:1) state that wildlife viewing and outdoor recreation are the fastest growing sectors within the tourism industry.

The most world renowned and popular activity associated with eco-tourism is wildlife viewing which presents visitors with close-up experiences with the natural wildlife, which are mostly enclosed in game reserves within South Africa. The famous "Big 5" (African elephant, rhinoceros, Cape buffalo, lion and leopard) animals contribute to the number of visitors streaming to Africa's game reserves to have an opportunity to observe and encounter these animals in their natural habitat. It is therefore important to implement security measures on commercial private game reserves. Perry and Potgieter (2013:104) emphasise the linking of tourism and criminological studies because there is a dearth of research on this subject in South Africa (SA) even though providing security to tourist destinations is essential for the safety of the visitors to this country.

The current crime situation in SA remains a concern for its citizens and potential tourists (Moyo & Ziramba, 2013:5). Crime aimed at tourists is detrimental to any country that is a tourist destination (Perry & Potgieter, 2013:101) and SA has earned a reputation worldwide of being an unsafe country to visit. This has created an increased awareness of security measures, particularly in game reserves, to protect

their wildlife and their visitors.

A distinction must be made between commercial private game reserves (CPGRs) and non-private game reserves. For this research study, a privately-owned game reserve is owned and managed by a private owner or owners. Non-private game reserves are owned and/or managed by provincial or national parks that are not part of this study. The commercial part of the title refers to a private game reserve receiving visitors from both domestic and international markets who are paying for a service/product. Very few privately owned game reserves are exclusively financed by the owner(s) and game reserves are becoming more difficult to maintain in the current economic climate (Sims-Castley, Kerley, Geach & Langholz, 2005:6-10). Game reserves provide a natural habitat for various wildlife, fauna and flora, species, and therefore they are critical conservation tools (Sims-Castley et al., 2005:11).

In order to attract tourists, the destination should have a marketable product. A potential tourist considers the image of a place before deciding to visit it (Lubbe, 2000:5). A game reserve depends on tourists, both domestic and international, for revenue to enhance the sustainability of the business. As such, the current study explored and analysed the security measures implemented on CPGRs in Limpopo. These measures contribute to ensuring the safety and security of the visitors to the game reserves.

This chapter provides a background to this study and a discussion of the problem statement, rationale of the study, research aims and objectives, research questions, definition of key concepts and an outline of the dissertation.

1.2 BACKGROUND TO STUDY AND PROBLEM STATEMENT

According to Fouché and Delport (2011:108), the researcher should clearly define the research problem for the study to provide an overview of the area to be investigated. This research study originates from a headline on News24 which read: “Attacks force game lodges to close” (Van Aardt, 2011).

Limpopo is described as a “natural treasure chest” by the South African Local Government Association because it has an abundance of agriculture, minerals and tourism destinations (SALGA, 2017). Limpopo, in the northern part of South Africa, is

named after the Limpopo River that flows through the northern border of the province (SA-Venues, 1999). The province has borders with Botswana, Zimbabwe and Mozambique. Limpopo province consists of mainly rural communities, comprising several ethnic groups with distinct cultures. Limpopo has a range of ecosystems ranging from bushveld, mixed grassveld, savannah and mountain ranges. The province has many activities to offer the tourism market (Limpopo info, [sa]). Limpopo's contribution to the national Gross Domestic Product (GDP) was 7.2% in 2016 (Limpopo Provincial Government, 2019:15).

Image 1: Map of Limpopo

(SA Places, 2019)

There are many private game reserves in South Africa that service the tourism industry. Tourism Direct Gross Domestic Product (TDGDP) was 2.9% in 2016 with an estimated R125 136 million (STATSSA, 2018a:2). With this financial contribution to

South Africa's economy, the importance of protecting tourists from offenders is essential to the survival and growth of the industry (McIntosh et al., 1995:223). The overall low economic growth in South Africa is affected by unemployment, poverty and inequality (Limpopo Provincial Government, 2019:9).The five most reported crimes in the province are burglaries at residential premises, assaults with the intent to cause grievous bodily harm, drug-related crime, common assault and malicious damage to property with an exponential growth in drug related crimes (Limpopo Provincial Government, 2019:46).

There is a sense of urgency to stop crimes that affect the well-being of the game reserves and the tourists who visit them. Apart from the value or income received by game reserves from tourists, the local communities also depend on these reserves as a source of income, employment and production of end user commodities. Should crime threaten the safety of tourists and result in the forced closure of a game reserve, numerous people would be unemployed in an already poverty-stricken South Africa.

Since 1990, crime has increased to levels never experienced before in South Africa (Snyman, 2008:21). Crimes against tourists result in bad publicity and create a negative image in the minds of prospective visitors (McIntosh et al., 1995:223). This could have a negative impact on the number of visitors to CPGRs and threaten the existence of these reserves (Perry & Potgieter, 2013:104). However, research by Moyo and Ziramba (2013:14) concludes that, on the whole, crime is not a significant deterrent to inbound tourism but rather specific crimes such as kidnappings, car hijacking, murder and sexual offences. The researcher established that little research has been conducted in South Africa regarding security on CPGRs and the impact on their tourists, as much more focus is given to rhino poaching and the effects of rhino poaching, as these events are currently threatening the rhino population to extinction.

Although there is much literature on general security risk management, there is very little on game reserve security measures. Perry and Potgieter (2013:104) state that the focus of research on crime is on victim surveys that focus on residents' experiences but they also emphasise the importance of linking crime to tourism because Ferreira (1999:315) and Moyo and Ziramba (2013:4) identify South Africa's tourism industry as a fast-growing industry that will stimulate economic growth.
Due to the current financial climate, it is not possible for every game reserve to employ

a full-time security manager or implement a security programme (Minnaar & Herbig, 2018:156). But, according to Rausand (2011:5), harmful events remain an inherent part of life and measures to counter their effects can prevent or mitigate the results of these events. It is the responsibility of the owner(s), the security manager or reserve manager (in the event of no security manager) employed by the game reserve to ensure that all the necessary steps are taken to mitigate the security risks that game reserves face.

Eco-tourism, which is provided by game reserves, is an important sector of the tourism industry. The researcher defines security measures implemented on commercial private game reserves in Limpopo to protect the visitors and the wildlife. The general lack of understanding of the elements of security risk management and their application could severely impact smaller CPGRs that are not in the position to afford private security services. This research study aims to ensure the safety and security of South Africa's visitors and its wildlife in order to promote responsible tourism.

Game reserves are becoming targets of criminals. Government institutions, such as the South African Police Services (SAPS), have a difficult task to safeguard game reserves which are often located in vast rural areas (SAPS, 2019:12). Linacre (2009:2) states that national police forces have a limited budget for investigating wildlife crimes compared to violent crimes such as murders. Wildlife crimes, such as wildlife trafficking and illegal poaching, focus on specific wildlife species whereas contact crimes aimed at tourists impact the number of visitors (and money spent) that will affect poverty and unemployment of the local community in proximity to the CPGRs.

This research study should assist in the investigation and identification of security measures to ensure that the game reserves can formulate strategies to enhance the safety and security of their visitors and their wildlife.

1.3 RATIONALE OF THE STUDY

This research study will contribute positively to the tourism and security industries. The research assessed the current security measures on multiple levels, the understanding of certain key concepts and the application of security risk management aspects. The rationale for the study is divided into three main sections as discussed

below.

1.3.1 The importance of a security risk manager

The assessment of security measures implemented on a CPGR includes the security risk manager who forms an integral part of the security planning or programme. McCrie (2007:27) points out that successful security operations and the security risk manager are critical to the growth and stability of any organisation. The security risk manager protects assets, identifies threats, plans to resolve them and organises the resources to achieve the goals of the organisation (McCrie, 2007:5-6). According to Fischer and Green (1992:165), the security risk manager must have the ability to analyse vulnerabilities that will lead to effective countermeasures.

All managers have four fundamental functions, namely, planning, leading, organising and control (Smit, Cronje, Brevis & Vrba, 2007:8). The value of the security risk manager, who is trained in the fundamentals of security risk management, is that he/she will have the necessary tools for the correct decision-making process to prioritise the needs of the security programme.

If the security programme is designed and implemented correctly, the organisation will enjoy the benefits of such a programme. The reality is, however, that not all CPGRs are able to employ a qualified security risk manager. However, a property may have what is termed a “risk practitioner” who oversees its security functions but this person may not be familiar with the application of specific security countermeasures. These CPGRs also need knowledge and guidance on how to protect their wildlife and visitors. This research study is aimed to add value to all game reserves to ensure a secure and sustainable tourism industry.

1.3.2 An assessment of fundamental principles in security risk management and security planning

Appropriate security planning will determine the degree of security required in an organisation (Fischer & Green, 1992:110). This research study set out to establish if security risk management principles are applied at CPGRs to minimise risks and threats and how they are applied. This entailed a review of the core competencies and qualifications of key security staff because the foundation of any security programme

stems from a security risk assessment.

1.3.3 The use of security risk assessments

A security risk assessment, which is a major part of the security risk management operational strategy, is a tool used by security risk management practitioners that measures security controls and their effectiveness to protect assets (Landoll, 2011:3) and counters security threats that organisations face. Molak (1997:92) states that the basic idea of a risk assessment is to identify and manage risks to the environment and ecosystems.

Security risk management involves ensuring that risks that an organisation faces are within acceptable boundaries or thresholds as defined by management or the owner (Landoll, 2011:4). An assessment of the security risk measures could indicate why certain CPGRs are victims of wildlife crime or crime in general, which could lead to effective security programmes to protect the wildlife and the visitors.

Security risk management must be a holistic approach to prevent or combat all security risks a CPGR is facing and to improve security measures. Tilley (2009:3) states that crime problems are complex and changing and that offenders and victims have the ability to adapt to new conditions. This implies that the security risk manager will need to be familiar with new crime trends in order to implement a successful crime prevention strategy to counter threats of crime.

1.4 RESEARCH AIM AND OBJECTIVES

According to Fouché and De Vos (2011:94), the aim of a research study is to achieve the research objectives of the study. Fouché and De Vos (2011:94) describe research objectives as measurable concepts. The aim and objectives are discussed below.

1.4.1 The aim of the research study

To identify, analyse and scrutinise security measures implemented on CPGRs in Limpopo province and the effectiveness of security risk countermeasures.

1.4.2 Objectives of the research study

- To analyse the application of security risk management at CPGRs in Limpopo province;
- To analyse the factors of the security risk management programme at CPGRs and its effectiveness;
- To analyse the use of a crime prevention strategy as a security measure by CPGRs.

1.5 RESEARCH QUESTIONS

Denscombe (2002:31) suggests that the research questions specify what is to be investigated.

1.5.1 The primary research questions

- What are the core security measures implemented on commercial private game reserves?

1.5.2 The secondary research questions

- What are the crime risks a game reserve faces?
- Does the security risk manager apply security risk management as a management tool?
- What critical factors form part of a crime prevention strategy?
- What is the understanding of crime risks and how are security measures applied to reduce risks for a CPGR?

1.6 KEY THEORETICAL CONCEPTS

Key theoretical concepts are defined for clarity and to facilitate communication (De Vos & Strydom, 2011:30). Below are the concepts used in this study.

- **Commercial private game reserve:** Eco-tourism-based private game reserves are privately owned natural areas where tourism serves as the primary business activity, rather than hunting or some other land use (Sims-Castley et al., 2005:6).

- **Countermeasure:** Any device or action with the ability to reduce vulnerability (Jenkins, 1998:4).
- **Crime prevention:** Any action designed to reduce the actual level of crime (Lab, 2010:320).
- **Eco-tourism:** Is the travel to natural areas which conserves the environment and sustains the well-being of the local people (McIntosh et al., 1995:369).
- **Risk management:** A continuous management process with the objective to identify, analyse and assess potential hazards and to introduce control measures to eliminate or reduce potential harm to people, the environment or other assets (Rausand, 2011:10).
- **Security risk manager:** A person who protects identified assets through personnel, procedures and systems under his or her control (McCrie, 2007:5).
- **Security risk assessment:** This is a probability determination of asset losses based on asset valuation, threat analysis and an objective review of the effectiveness of current security controls (Landoll, 2011:7).
- **Threat:** A threat is a potential force that could negatively impact a system. The threat could be human or environmental (Jenkins, 1998:6).
- **Tourist/visitor:** A tourist/visitor is a person who travels away from home (McIntosh et al., 1995:369).
- **Tourist perception of safety:** According to George (2003:577), the tourist perception of safety is how a tourist feels at a holiday destination. This could be negative when a tourist feels unsafe or threatened.
- **Vetting:** The process of ascertaining the accuracy and completeness of information which also refers to pre-employment screening (McCrie, 2007:381).
- **Wildlife crimes:** This is described by Moreto and Pires (2018:3) as the illegal taking and trading of fauna and flora which has consequences for the biodiversity and communities. Warchol and Johnson (2009:143) add pollution to crimes against nature or wildlife.
- **Wildlife poaching:** This is a form of deviant and criminal activity and any act that intentionally contravenes the laws and regulations that protect mammals,

birds and other wildlife (McSkimming & Berg, 2008:235).

1.7 OUTLINE OF DISSERTATION

The study contains the following chapters:

CHAPTER 1: PROBLEM STATEMENT AND OVERVIEW OF RESEARCH STUDY

In Chapter 1, the problem statement is discussed to provide a clear understanding of what the research study entails, the aim of the study and the research objectives. An overview of the research study is provided.

CHAPTER 2: RESEARCH METHODOLOGY

Chapter 2 outlines the research approach and design. It describes the methods of population and the sampling design and discusses the research methods used for data collection, the importance of validity and reliability and the ethical considerations.

CHAPTER 3: CONTEXTUALISING GAME RESERVE SECURITY MEASURES

A more detailed description is provided of a game reserve and what it entails. This chapter explains the crime risks game reserves face, the challenges pertaining to ensuring safety and security of their visitors and wildlife and the security measures taken to achieve this.

CHAPTER 4: FACTORS CONTRIBUTING TO A SECURITY RISK MANAGEMENT PROGRAMME FOR COMMERCIAL PRIVATE GAME RESERVES

Chapter 4 provides an explanation of the main security factors within a security programme. It considers the contribution that a crime prevention strategy makes to the overall security success of a specific area. Furthermore, in this chapter, the importance of corporate responsibility is discussed.

CHAPTER 5: FINDINGS, ANALYSIS AND INTERPRETATION OF DATA

In Chapter 5, all the research findings are indicated and analysed. The data were collected through open-ended interviews with the participants. All participants were provided with the assurance that information provided will be treated with

confidentiality, in terms of locations and names, nonetheless, certain information will be published in a research report which would be available to the general public.

CHAPTER 6: ACHIEVEMENT OF AIM AND OBJECTIVES, RECOMMENDATIONS AND CONCLUSION

Chapter 6 assesses whether the researcher has achieved the aim and objectives of the research study. The recommendations are intended to contribute to the communities involved.

1.8 CONCLUSION

Not all game reserves have funding for private security services even though they all face the same crime risks. This research was intended to contribute to all game reserves particularly those private owners who do not have the manpower, financial means or security knowledge to implement effective security measures to combat crime.

To understand the complexity of applied security measures at commercial private game reserves, all crime risks, such as theft, robbery and other wildlife crimes that threaten these reserves, need to be considered in order to contribute to the security risk management industry, to increase the sustainability and viability of all game reserves in South Africa and to protect our natural heritage for future generations.

This chapter provided an explanation to the background to the study, the problem statement, the rationale of the study and the research aim and objectives which the researcher intends to achieve. Key theoretical concepts which will be used throughout the dissertation was named and defined.

CHAPTER 2
RESEARCH METHODOLOGY

2.1 INTRODUCTION

The research methodology is the research design or strategy the researcher chooses to conduct research. The type of design which will be used by the researcher, as described by Fouché and Schurink (2011:312), will be determined by the researcher's choices or actions in the planning process. Fouché and Schurink (2011:308) emphasise that qualitative researchers often develop their own designs based on available tools or strategies whereas Denscombe (2007:255) associates a quantitative research approach with surveys and questionnaires and therefore it is primarily used in research that produces information in numbers. The difference between the two approaches is in the analysis of the data.

This research study was complex. There were challenges in identifying participants from the start. Remenyi (2013:57) states that a planned and structured approach should not restrict the researcher as the study continues. The researcher could not foresee how the research study would unfold and therefore he remained flexible in his approach. Remenyi (2013:58) also states that research is a voyage of discovery and to achieve the research aims and objectives, the researcher must have a clear methodological approach with logical guidelines. In this section, the researcher describes the research design, methods of data collection and the sampling plan. Additionally, data analysis and the validity and reliability of the research study are discussed.

2.2 RESEARCH METHODOLOGY

Research methodology refers to the options available to the researcher, such as a quantitative or qualitative approach (Remenyi, 2013:5). The procedures to be used to select, collect and analyse data are described in this section.

2.2.1 Qualitative research approach

The researcher used a qualitative research approach to obtain access to the experience and subject matter knowledge of the participants. Fouché and Delport

(2011:75) note that various designs or strategies exist for the qualitative researcher. Welman, Kruger and Mitchell (2005:8) state that a qualitative research approach is flexible and more explorative as qualitative researchers try to achieve an insider's view and use a holistic approach by collecting a variety of data, for example, documents, observations, case studies and interviews.

Fouché and Schurink (2011:312) note that the qualitative researcher has more flexibility in the research design as the researcher can design the project around the strategy. A qualitative research approach is appropriate in this study as it enables an in-depth qualitative design and report of an individual, activity or event which, according to Gast (2010:17), allows the researcher to have a more exploratory research study. Gast (2010:17) further states that studies using this research approach make no attempt to intervene or control common threats to internal validity or generalise findings beyond the case studied. Through this approach, the researcher was able to rely on participants' personal experiences and perceptions. Fouché and Schurink (2011:312) list the most important types of research designs as: narrative biography, ethnography, phenomenology, grounded theory and case study. In order for a study to qualify as research, it needs to have clearly stated aims that relate to existing knowledge and investigations that have limitations imposed through time (Denscombe, 2002:2).

2.2.2 Case study design

In this research study, the researcher used a case study design. Zainal (2007:1) introduces case study research as a study that allows the investigation and understanding of complex issues. Case study research can be a robust research method especially when a comprehensive and in-depth investigation is required (Zainal, 2007:1). Remenyi (2013:2) defines a case study approach as a study that uses different sources to address searching questions. This design was best suited for this research study since it is complex in design (Denscombe, 2007:38). Fouché and Delport (2011:321) state that a case study can refer to a process, activity, event and even multiple individuals, with Creswell, Hanson and Clark (2007:246) adding that case studies are distinguished by the size of case through one individual, several individuals, a group or an activity. Yin (1993:3) notes that such a design has two challenges. Firstly, the richness of the context of the study could produce more

variables than data and, secondly, this richness means that the study will rely on multiple sources of evidence. Creswell et al. (2007:245) guide the researcher to focus on the research issues in order to build an in-depth and contextual understanding of them and that case study research can be produced from multiple cases which involve various sources of information, such as interviews, observation and reports. Zainal (2007:1) adds that the case study will enable the researcher to study the data within the bounds of a particular context as it is “a design that explores and investigates contemporary real-life phenomenon through detailed contextual analysis of a limited number of events or conditions, and their relationships”.

Fouché and Schurink (2011:321) believe that the case study researcher intends to conduct research with relevant knowledge of literature when entering the field. This implies that the researcher will produce a product with an in-depth description of cases and case-based themes which are descriptive, explanatory and collective whereas Yin (1993:5) notes three types as exploratory, descriptive and explanatory. Remenyi (2013:15, 20) defines two types of case studies, namely, teaching-learning and the research case study and adds that descriptive or exploratory case studies can respond appropriately to the research problem. Zainal (2007:3) states that “the exploratory case studies explore any phenomenon in the data which serves as a point of interest for the researcher”. Remenyi (2013:19) guides the researcher to an exploratory research case study that needs to account for a situation where there is a research opportunity and, furthermore, it needs to describe the context and the result of the research study to answer the research questions.

All the information obtained above, assisted the researcher to understand the type of research to be conducted to identify security measures implemented on CPGRs in the Limpopo province of SA. The qualitative methodology guided the researcher to obtain information from various sources and to make use of an inductive reasoning approach which will allow him to pursue specific data which he believes will answer the research question referred to in the aim of the study (Remenyi, 2013:21, 22) (vide section 1.4.1).

The study was explorative in nature since no similar research has been done previously that could guide the researcher. Complex issues were analysed and understood through a literature review. The researcher used various tools to gather data and to understand the view points and opinions of the participants. Each

participating property had potential to be a case study in itself however, to produce more data to analyse, more properties were included in the research study. The research case study allowed the researcher to explore the area of research in order to obtain data to answer the research questions.

2.3 RESEARCH PROCEDURE

In this section, the researcher indicates the systematic process of identifying the unit of analysis, the population and sampling techniques to indicate the procedure that was followed in executing the research study. Fouché and Delport (2011:70) indicate that, after the selection of the research design, the next step is the selection of information to be gathered and the development of the sample.

2.3.1 Unit of Analysis

Remenyi (2013:24) discusses the importance of clearly indicating the unit of study or unit of analysis that is described by Dantzker and Hunter (2006:97) as “the particular objects, individuals or entities that are being studied as elements of the population”. Yin (1993:10) says that the researcher must ensure that boundaries are set for the collection of data and the duration of the study because the findings of the study will allow the findings to be generalised so that other research findings using the same unit of analysis can be compared.

The research study focused on CPGRs in Limpopo, thus the unit of analysis was game reserves. Fouché and De Vos (2011:93) describe the unit of analysis as objects or elements whose characteristics the researcher wants to describe and collect data from. The case study involved multiple CPGRs from which data were collected that is discussed in more detail in below (vide section 2.4).

2.3.2 Population

Dantzker and Hunter (2006:223) and Strydom (2011:223) describe the population as the complete group from which information is to be gathered and a sample as a group within the target population. Strydom (2011:222) explains that the researcher must understand the concept of the sampling plan in the research study. The population consists of individuals or humans, groups, organisations, human products and events

(Welman et al., 2005:52; Strydom, 2011:223). Welman et al. (2005:53) further state that a population is a group of potential participants to whom you want to generalise the results of the study. Strydom (2011:223) adds that a population is persons, events or other sampling units that are applicable to the research study. In this research project, the population was commercial private game reserves in the Limpopo province.

2.3.3 Sampling techniques

In order to ensure validity and reliability, the sample must be representative of the population (Welman et al., 2005:55). However, Barbour (2008:53) is of the opinion that qualitative sampling is not done to produce a representative sample, but to reflect diversity and that the researcher should provide as much data as possible for comparison.

Strydom (2011:224) defines a sample as a smaller portion of the chosen population of persons, events or other objects. He explains (2011:224) that the reason for sampling is to ensure feasibility. A sample assists the researcher to concentrate time, effort and finances in order to achieve a high quality research through better instruments and more in-depth information. The two main categories of sampling procedures are described as probability and non-probability sampling (Strydom, 2011:228; Dantzker & Hunter, 2006:223; Denscombe, 2007:13).

Probability sampling, as described by Strydom (2011:228), is more often used in quantitative studies. Strydom (2011:228) and Dantzker and Hunter (2006:223) define probability sampling as a representative sample giving each of the members in the population group equal opportunity to be represented in the sample. Denscombe (2007:13) adds that it means that the selection is made randomly.

Dantzker and Hunter (2006:223) describe the difference between probability and non-probability sampling as the former provides an equal opportunity to be selected and the latter does not. Strydom (2011:231) and Denscombe (2007:16) add that, during non-probability sampling, the researcher does not know the population size or members of the population. The researcher was faced with an inability to establish the total number of CPGRs in Limpopo. There is no requirement for game reserves to

belong to a governing body which could have assisted the researcher to determine an accurate game reserve population and therefore calculate or specify an appropriate sample size.

The researcher made use of two non-probability sampling techniques, namely, purposive and snowball sampling, to reach 22 properties. During the field research phase, 30 participants were interviewed. The identification of participants and sampling techniques are discussed below.

2.3.3.1 Purposive sampling technique

This type of sampling technique is based on the judgement of the researcher when the sample holds attributes of the population that serves the researcher's purpose (Strydom, 2011:232). Dantzker and Hunter (2006:223) add that the use of this sampling technique is based on the researcher's skill and needs. The researcher is familiar with some game reserves, through previous work experience in the Limpopo province. Familiar people within the industry assisted with the initial identification of potential game reserves that would be willing to participate in this research study and whom the researcher was able to purposefully include in the sample. Therefore, the researcher identified certain CPGRs through common acquaintances. Formal permission to conduct research letters (vide Annexure D) requesting these individuals to partake in the study was sent out. The researcher also had these aforementioned letters in the field in order to provide them on the request of participants who were not identified at the commencement of the field work.

The main sample targets were security and/or reserve managers. However, during the field work stage, it was not always possible to interview these individuals for various reasons, such as operational availability. Since a significant portion of the raw data being collected is opinion-based and focused on the participants' own experiences of crime on CPGRs, their occupation or job description became less significant.

After interviewing certain respondents, they were willing to refer the researcher to other potential participants. This allowed the researcher to use the snowball sample technique to include other relevant participants. According to Strydom and Delport (2011:393), snowball sampling allows the researcher to identify hard-to-reach

individuals.

2.3.3.2 Snowball sampling technique

This technique is used as a strategy by researchers to increase the sample size. Welman et al. (2005:69) state that, in snowball sampling, the researcher first approaches a few individuals from the relevant population. Dantzker and Hunter (2006:224) explain that snowball sampling begins with a person who provides other potential candidates for the sample. The researcher found participants were more forthcoming when they were approached through a referral. Strydom (2011:233) explains that when the researcher asks for respondents to provide names, the snowball sampling technique can yield results and therefore the researcher relied on participants' referrals of other game reserves to contact which added to the total sample number. All participants who were included in the sample were informed that partaking was completely voluntary and their consent should be given with the onset of the interview. All participants signed the consent form (vide Annexure E) before the interview commenced.

2.3.4 Sample size

The sampling strategy represents various areas of the province to ensure different personal influences, crime areas and regions to be considered and included in the study. The total sample (30 interview participants from 22 CPGRs) included game reserve owners, reserve managers, security managers and other participants, who were willing to take part in the study. The sample was purely aimed at eco-tourism orientated CPGRs in Limpopo. Consequently, national and provincial parks were purposefully excluded. The researcher further excluded game reserves where the primary income or business focus is hunting, stud/game breeders, estates and resorts. The rationale was that those game reserves mentioned do not depend on eco-tourism for their main income stream as other financial resources are available to them. Although wildlife crime and crime in general affects these game reserves, the research study aim was to determine the impact of crime on CPGRs.

2.4 DATA COLLECTION

According to Gast (2010:10), data can be collected using several methods. Remenyi

(2013:51) states that an important attribute of a competent researcher is the ability to identify the relevant data which will be used in the research study. Remenyi (2013:51) explains that qualitative data collection is time consuming, labour intensive and subject to misunderstandings. The data collection entails the processes, techniques and instruments used by the researcher to obtain the raw data which will be analysed by the researcher (Dantzker & Hunter, 2006:140).

According to Fouché and Delport (2011:73), the data collection stage includes the final selection of the relevant measurement instruments. Dantzker and Hunter (2006:17) add that a variety of methods exist for collecting data. The data for this study were collected with the use of onsite observation checklists, interviews using a semi-structured one-on-one method of interviewing and field notes.

2.4.1 Onsite observation checklists

Observation is the systematic process of recording the behavioural patterns of participants, objects and occurrences without necessarily communicating with them (Maree, 2007:83). Observation is a key gathering method to obtain insight of the behaviour and dynamics of the participants. Although no intense direct observations over an extended period occurred on the CPGRs, certain observations were made. Observations of physical security measures, inter alia, security fences, property layout, access roads and participant behaviours were made by the researcher. During the research, the researcher was a passive observer as described by Maree (2007:85) and was not intrusive.

The researcher made use of onsite checklists (vide Annexure B) as an audit mechanism on each game reserve. Where it was not possible for the researcher to see the specific item, it was verbally confirmed by the respondent whether the item, such as an intruder alarm, was in use or not. The checklist was designed in an easy to use format with the respondents straightforwardly confirming an item with a “yes” or “no” answer. The answers are analysed, interpreted and discussed in Chapter 5.

2.4.2 Field notes

In order to create validity for the research, the researcher used running records or field notes. According to Maree (2007:85), running records are defined as a continuous account of what is observed with the focus not only on the actions, but also on the situation. Therefore, the researcher describes the action in the context in which it occurred. Strydom (2011:335) explains that field notes should include what the researcher sees and hears. The comprehensive observation of game reserves' operations was limited however, key observations were made of the participants' behaviour and other applicable information which was recorded in the field notes. Denscombe (2007:220) advises that field notes should be created as soon as possible without being intrusive during field work. Some CPGRs do not make use of any security service providers and therefore there was no security operation to observe.

2.4.3 Semi-structured one-on-one interviews

One of the most popular forms of data collection is the use of interviews (Greef, 2011:342; Dantzker & Hunter, 2006:146; Denscombe, 2007:173). A qualitative interview is based on topics to be discussed in depth (Babbie, 2010:318). Maree (2007:87) and Greef (2011:351) state that an interview is an information exchange in which the researcher asks the participants questions to collect data in order to learn about the beliefs, views, perceptions and opinions of the participants.

The type of interview method used by the researcher was the semi-structured interview. According to Denscombe (2007:176), the use of a semi-structured interview allows the researcher to ask a list of questions. However, it is flexible to encourage the participant to respond more freely. Greef (2011:348) further describes the semi-structured one-to-one interview as a data collection method where the aim is to discover the experience and understanding of the participant regarding the subject under study. Dantzker and Hunter (2006:146) state that the semi-structured interview offers the participant open-ended questions to which there is no set of responses provided by the researcher.

The researcher used open-ended questions during the interviews which were formulated and prepared as an interview schedule. According to Greef (2011:343),

open-ended questions allow participants to respond on their own their terms. Rossman and Rallis (2012:172) state that open-ended questions are more holistic and exploratory.

2.4.3.1 The interview schedule

Greef (2011:352) defines an interview schedule as a predetermined questionnaire with a set of questions that guide the interviewer. Greef (2011:349) advises the researcher to prepare the interview schedule beforehand. The researcher must define the information required and this must relate to the questions that are asked (Greef, 2011:349). The interview schedule was designed and divided into sections (vide Annexure C). Each section had particular questions which contributed to the development of themes during the analysis stage. With the knowledge that the semi-structured one-on-one interview schedule had open-ended questions, the researcher was able to ask probing or follow-up question where necessary (Greef, 2011:349). Each section allowed the respondents to freely elaborate on a specific matter. When the participant hesitated to answer, the researcher asked follow-up questions in order to give direction to the participant. The researcher's objective was to obtain the optimum amount of information from all interviewees at their specific CPGR.

Although the interviews were scheduled as one-on-one interviews, the researcher encountered five instances where participants felt more comfortable with another person in the interview and therefore a combined interview was carried out. The researcher accepted this in order to obtain the trust of the participants so that they would divulge the information he sought. The interview process assisted the researcher to understand the participant's way of thinking, his/her understanding of certain key definitions and concepts and how he or she applied their knowledge of security risk management.

A total of 98 questions which formed the interview schedule were asked in each interview to all 30 participants that included demographic information. In cases where a CPGR did not have a security manager, the owner, reserve manager or other relevant persons were interviewed. Interviews were recorded using a digital voice recorder with the consent and knowledge of the participants. Field notes are essential during the interview process (Greef, 2011:359) and were made by the interviewer

throughout the interview period which lasted for approximately 45 minutes, on average.

2.5 DATA ANALYSIS AND INTERPRETATION

According to Maree (2007:100), qualitative data analysis is an ongoing process that takes place during data collection, processing and analysis. Schurink, Fouché and De Vos (2011:402) state that the researcher should define his data analysis procedure and process and include it in the research report. Schurink et al. (2011:402) believe that data analysis and interpretation results must be verified against the researcher's larger theoretical frame of reference. Schurink et al. (2011:397) describe data analysis as the reduction of raw data into a meaningful state in order to give it structure and to establish the essence of the collected data.

2.5.1 Reducing the data by using content analysis

Schurink et al. (2011:402) maintain that, reducing the data will assist the researcher to generate categories or themes that is achieved through coding the data. All the interviews were transcribed. All transcriptions were coded with a participant number to ensure anonymity. The use of transcriptions created a large volume of raw data which needed to be reduced into a manageable amount. The researcher started systematically reading and re-reading the transcripts question by question to conceptualise the information.

2.5.1.1 Generating themes

Schurink et al. (2011:402) advise that the researcher should process and analyse the data according to a data analysis strategy, identify themes and formulate similarities between them. Elo and Kyngäs (2008:111) reveal that categories or themes are formed to increase the understanding of the data. A theme, as described by Braun and Clarke (2006:82), is something that captures interrelations between the research questions and the data and, as a result, produces meaning from the data. The formulation and comparison of the themes (or categories) create a greater understanding for the researcher. Should this process be followed in a qualitative design, trustworthiness and validity is added to the results (Elo, Kääriäinen, Kantse, Pölkki, Utriainen & Kyngäs, 2014:5; Elo & Kyngäs, 2008:112).

Elo et al. (2014:1) state that, for a successful content analysis, the researcher should reduce the data to concepts or categories or, as in this study, themes. These themes, as described by Braun and Clarke (2006:82), happen when the responses form a pattern. Braun and Clarke (2006:82) note that the formulation of these themes is not dependent on the ability to quantify the measures, but more on the ability to capture a fundamental relation to the research questions. Schurink et al. (2011:411) state that the theme is extracted from concepts and is generated by the researcher.

The researcher developed the themes during the analysis of the transcripts which was aligned with the interview schedule. The themes annunciate the research objectives. Schurink et al. (2011:402) explain that, during analysis, the researcher should identify themes through a line-by-line or paragraph-by-paragraph analysis of the transcriptions of interviews. The use of content analysis was applied to comprehend and examine the data obtained from the participants. The interviewees' responses were analysed by interpreting the repetition of words and responses to each question. This ensured that the focus of the researcher was on one question at a time. The questions across each section formed themes and, where possible, were formulated into a single theme during the analysis (vide section 5.3). In order to identify themes, all the transcripts were coded and codes were grouped accordingly.

2.5.1.2 Coding data

Maguire and Delahunt (2017:3355) describe coding as organising the data in a meaningful way to assist the researcher to comprehend the data. Maguire and Delahunt (2017:3355) and Schurink et al. (2011:412) state that coding may be applied by using different options and applications. Elo and Kyngäs (2008:109) describe a process of inductive content analysis using open coding and creating themes as an advantage of content analysis when data are coded and interpreted in a valid and reliable way. The inductive content analysis approach is recommended by Elo and Kyngäs (2008:109) when there is little knowledge about the problem. Braun and Clarke (2006:83) note that the inductive analysis approach means the themes are linked to the data collected.

Different types of coding are identified. Elo and Kyngäs (2008:109) describe open coding as notes and headings written in text while the material is being read. Maguire

and Delahunt (2017:3355) state that open coding is not having a prescribed set of codes but developing the codes as one works through the data or coding process. Schurink et al. (2011:412) explain open coding as a process of breaking down, comparing, conceptualising and categorising the data. Dantzker and Hunter (2006:162) describe coding as assigning values to data but also state not all data need to be coded. Dantzker and Hunter (2006:163) advise that certain variables, such as gender, need to be coded.

The researcher coded the demographical data of participants and converted them into numerical groupings. The researcher applied the method of open coding whilst working through the transcripts. All the transcripts were coded separately question-by-question thus creating themes which were used to break it into manageable parts, compare and conceptualise the data relevant to the research questions (Maguire & Delahunt, 2017:3355; Schurink et al., 2011:412). All the transcripts were coded by hand using pens and highlighters (Braun & Clarke, 2006:83). Relevant notes and codes were made on the transcripts to ensure that different categories could be identified. The demographic information was counted and coded and formed into groups (vide Table 4 section 5.3.1). Thereafter, property sizes, distance from the closest town and South African Police Station (SAPS) station were determined by coding different distances and grouping them together (vide Table 5). Questions where multiple answers were provided, such as physical measures, were listed by the researcher and the repetitions of measures were counted to establish a total.

Elo and Kyngäs (2008:113) state that there are no simple guidelines to qualitative content analysis, each study is distinctive and researchers should be flexible. They advise that, if the data is compressed too much, the integrity of it may become lost. Braun and Clarke (2006:91) advise that only after reviewing all the codes created, and after these codes are formed into themes, the researcher can compare themes. Themes should be clear and identifiable (Braun & Clarke, 2006:91) which will result in a conceptual framework (Schurink et al., 2011:415).

2.5.1.3 Interpreting the themes

In this phase of the research, interpretation of the themes (Braun & Clarke, 2006:92) was done. According to Schurink et al. (2011:416), interpretation of themes means

making sense of the data. For each individual theme, the researcher wrote an analysis (Schurink et al., 2011:416; Braun & Clarke, 2006:92; Nowell, Norris, White & Moules, 2017:10). Nowell et al. (2017:10) say that the sections of data that overlap may be interpreted as multiple themes. Braun and Clarke (2006:92) feel that themes must be clearly defined and the researcher should be able to describe a theme using a couple of sentences and, until the themes are clearly defined (Nowell et al., 2017:10), the researcher should not move on to the next phase. The themes are interpreted in Chapter 5. The responses provided by the participants from each question were grouped together and analysed.

Braun and Clarke (2006:92) indicate that reporting on the data involves conveying the data in a manner that convinces the reader of the validity of the analysis. Nowell et al. (2017:10) add that the findings must be clearly communicated in order for the reader to find the report credible and believable.

2.6 VALIDITY, RELIABILITY AND TRUSTWORTHINESS OF COLLECTED INFORMATION

Denscombe (2007:297) infers that there are no particular steps to follow to ensure that the research is accurate however, there are significant attributes of qualitative research that show that a study was completed in a responsible manner. Gast (2010:98) adds that there are two fundamental issues that must be confronted with research, namely, validity and reliability, while Nowell et al. (2017:3), Elo et al. (2014:5) and Elo and Kyngäs (2008:112) add trustworthiness as a crucial element to legitimise a qualitative research study. To ensure the research is accurate, these elements must be described which will strengthen the qualitative study (Schurink et al., 2011:420). The researcher relied on the research design and its ability to be generalised and comprehended by the reader to ensure the validity, reliability and trustworthiness.

2.6.1 Ensuring validity

Denscombe (2007:335) broadly describes validity with two separate verifications. Firstly, the data reflects the truth and secondly, as pertaining to methods or, as Yin (1993:39) describes it, the use of valid instruments. Yin (1993:39) notes that many instruments and measures are not as accurate as planned, therefore a multiple

measure use strategy applies. Validity means truthfulness, according to Neuman (2011:214) and Maree (2007:36) is of the opinion that having the data collection technique reviewed by experts and by using rich descriptions from the participants, the researcher ensures that the data collected is valid. The researcher focuses below on two matters that demonstrate valid data.

2.6.1.1 Triangulation

Remenyi (2013:97) mentions three sources of data, namely, spoken evidence, written evidence and observation data. In order to support and enrich the answers to the research questions, the researcher used interviews (spoken evidence), onsite checklists and field notes (written evidence) and onsite observations (observation data). Remenyi (2013:97) clarifies that the use of the aforementioned types of data is referred to as triangulation. Yin (1993:69) explains triangulation as establishing that the research event occurred as the researcher is able to produce evidence of interviews, documents and observations. Denscombe (2007:134) describes triangulation as a practice of viewing methods and sources from different perspectives to increase comprehension of the research. Triangulation, according to Yin (1993:69), should be the researcher's desired outcome. Essentially, the researcher needs to demonstrate that the findings are true (Denscombe, 2007:296). Triangulation is achieved with the use of onsite checklists, observation with field notes and interviews that confirm that the research measures are aligned with the research design and were conducted in an ethical manner (vide section 2.7).

Interviews were held to investigate the research questions. Denscombe (2007:137) discusses investigator triangulation which deals with the bias of the researcher. Denscombe (2002:160) states that research should be impartial and there should be no vested interest in the outcome of the research. These are important factors to contemplate for the researcher who previously worked on game reserves. The researcher has to affirm his impartiality to ensure a successful outcome of this research study. In no manner was any participant influenced and the researcher is confident that an alternative researcher would achieve the same findings after the data collection phase. This includes inter alia, interview responses, the creation of themes from transcripts and any event observation (Denscombe, 2007:136).

2.6.1.2 Respondent Validation

According to Denscombe (2007:297) the researcher can return to participants with the findings in order to check the validity and confirm the accuracy of the participants' opinions and experiences. However, Denscombe (2007:298) warns that the possibility exists that, after analysis, certain information could be unfamiliar at first to participants.

The researcher ensured validity from the participants by not interrupting the interviews. He allowed the interviewees to speak freely and asked probing questions in order to obtain clarity. The same interview schedule was used with all the respondents. All information provided was done voluntarily. The interviews were recorded, transcribed marked with a participant number and therefore participants' responses can be inspected for validation.

2.6.2 Ensuring reliability

According to Dantzker and Hunter (2006:213), reliability refers to the stability and consistency of the measuring tool used in the research to retain accuracy. Consistency alludes to the ability of the research to produce similar results when replicated (Dantzker & Hunter, 2006:213). Denscombe (2007:298) states that reliability means that should the research be replicated in future by another researcher, the outcome will yield the same results. In order for the researcher to ensure reliability, he ensured that the prescribed procedures were followed correctly, and the questions followed according to the predetermined structure.

According to Gast (2010:98), the reliability of measurement should be considered and therefore the degree of the behaviour observed must correspond with the behaviour under natural conditions. In this regard, the same onsite checklist and same interview schedule were used at each property to ensure consistency. All participants were interviewed in a relaxed, neutral and comfortable environment where privacy was a key factor in order for participants to answer all questions freely. For the research to be reliable (Denscombe, 2007:298), the research instrument must be consistent, and the research procedure repeated at every research site.

2.6.3 Establishing trustworthiness

Nowell et al. (2017:3), Elo et al. (2014:5) and Elo and Kyngäs (2008:112) believe that, in order for the researcher to convince the readers and other stakeholders that the research is true and valid, details on how the analysis was carried out must be clear and understandable. Elo and Kyngäs (2008:112) add that, to increase the validity and reliability of a research study, the researcher must prove a link between the data and the results. Another aspect to add trustworthiness to data is authentic citations (Elo & Kyngäs, 2008:112). Nowell et al. (2017:3) lists the following as criteria to establish trustworthiness in the analysis and therefore the research should be:

- Credible;
- Transferable or generalised;
- Dependable; and
- Confirmable.

Nowell et al. (2017:3) add that, if an audit trail exists with evidence, another researcher can follow the prescribed research plan and thus possibly arrive at the same conclusion using the same data.

An aspect that would motivate trustworthiness, after contemplation, is the ability to generalise the findings. Denscombe (2007:299) states that “generalisability is based on the statistical probability that relies on a large sample that is representative of the wider population and research based on small numbers and qualitative data needs an alternative way of addressing the issue”.

Therefore, the researcher believes that if data measuring tools are consistent, accurate and the ability to generalise findings is created, the research itself establishes trustworthiness. Throughout this chapter, the research approach, procedures and methods used by the researcher were indicated. All the information acquired has been kept safe and treated with the highest regard for sensitivity and confidentiality. All of this information is credible and confirmable and therefore contributes to this research study’s trustworthiness.

2.7 ETHICAL CONSIDERATIONS

Dantzker and Hunter (2006:215) define research ethics as doing what is morally and legally correct during the research project. This includes privacy concerns, informed consent, voluntary participation and causing no harm to others. All of the above were taken into consideration by the researcher who respected the rights of the participants (Denscombe, 2007:141), did not harm any person and/or animal during the project and operated with honesty and integrity.

Ethical considerations are also concerned with matters, such as plagiarism and honesty in reporting of results, which arise in the research (Welman et al., 2005:181). According to Strydom (2011:115), the research study's fundamental rule is not to cause any harm to participants and to protect them from any physical discomfort.

Furthermore, Strydom (2011:115) and Berg (2007:53) also identify ethical issues such as avoidance of harm, voluntary participation, informed consent, violation of privacy and confidentiality of data. The consent to participate in the research form (vide Annexure E) was signed by all participants. The form included information that confirms consent was given to partake in this study. The form further included consent for the participant to ask questions and that participation was voluntary. All participants were made aware that findings will be presented in a dissertation and therefore made publicly available.

Gast (2010:51) states that researchers should take great care in protecting the confidentiality of study participants and that raw data sheets should be coded for anonymity and should be safely stored away. The researcher used codes for all the participants and safely stored data sheets and transcriptions in a safe at the researcher's residence. All transcriptions were marked by property and participant number. No property name or locations, participant names and/or any other identifying information will be used or published that could bring harm to the properties and their employees.

According to Punch (2006:56) and Denscombe (2002:175), the researcher should know and comply with the relevant institutional requirements regarding ethical issues. The researcher took note of the UNISA Code of Research Ethics and complied with the stipulated guidelines. The College of Law Ethics Review Committee granted

approval to the researcher (vide Annexure A) to conduct research. The UNISA Policy on Research Ethics serves as an important guide for ethics review and the research ethics review system at UNISA aims to protect human participants, animals, other living or genetically modified organisms and contribute to the highest attainable quality of scientific and ethical research (Unisa, 2014:1).

2.8 CONCLUSION

In this chapter, the research methodology was discussed. For the research to been seen as scientifically correct, a research design was developed and research procedures were indicated. This included the sampling techniques and sample size. The researcher indicated and discussed the methods used to collect data.

Furthermore, the methods used for data analysis and interpretation were discussed. The research used the generating of themes and coding as sources of data reduction and measuring. The entire process from the onset of the research project ensured that the research is valid, trustworthy and reliable. All the steps that were taken have been recorded and described. The information obtained by the researcher was recorded, analysed and processed with sensitivity and confidentiality.

The researcher strived to conduct the research in a manner that, if repeated, the same findings would be achieved. This researcher applied the above steps by systematically processing all the data collected in order to produce findings in Chapter 5. These findings allowed the researcher to interpret the data methodically, to conceptualise relevant conclusions and to provide sufficient recommendations in Chapter 6.

The researcher ensured ethical issues were taken into consideration when the research was conducted due to sensitive information pertaining to CPGRs. No harm was done to any participants and matters such as privacy, consent and voluntary participation were taken into consideration. Therefore, no property name or identity of participants will be used.

This dissertation will be publicly available after examination and therefore not all data could be treated as secretive. However, a declaration of the confidentiality document was signed between participants and the researcher to ensure confidentiality and anonymity of all the participants and their properties.

CHAPTER 3
CONTEXTUALISING SECURITY MEASURES AT COMMERCIAL PRIVATE GAME RESERVES: A LITERATURE REVIEW

3.1 INTRODUCTION

This research study focused on the analysis of game reserve security measures, the impact of crime, the effectiveness of security measures of CPGRs and crime prevention. Very little literature with specific reference to game reserves exists thus creating a challenge for the researcher to critically evaluate and compare current security measures. Hence, as part of the review, the researcher has contextualised information from textbooks and other written sources which will be tested by the research findings (vide Chapter 5).

The researcher focused on the security risk manager (SRM) and scrutinised the role and responsibilities within the organisation. The premise is made that the SRM is the pivot around which the whole security risk management programme revolves. The SRM must be able to serve as a link between the organisation, all the shareholders, stakeholders and crime prevention organisations outside the company, such as the South African Police Service (SAPS). Lab (2004:193) supports this by stating the inability of the police to handle the crime problem alone and the recognition that crime and disorder cannot be dealt with solely through the arrest and prosecution of offenders. This has led to the development of alternative policing methods such as private security.

In order for the reader to comprehend the contribution the tourism and security industries make to each other, literature from both industries is reviewed and contextualised. The importance of tourism was already established in Chapter 1 however the basis for the existence of security measures at CPGRs is reviewed in more detail within this chapter in order to guide the reader to understand the contribution security makes to tourism. This symbiotic relationship of the security and tourism industries is discussed, for example, to establish if there is a need for a security manager to understand a concept such as sustainable tourism. Edgell (2006:121) defines sustainable tourism as a means to seek economic growth and benefits that

preserves the natural resources, provides a quality product to the tourist and involves local communities. Mowforth and Munt (2016:105) state the criterion often used to define sustainable tourism is mutually depended on cultural, social, environmental and economic sustainability.

This is important to ensure a security risk management programme is not designed and implemented to impede on the achievements of sustainable tourism and its activities. A well thought through security risk management programme should complement sustainability in all forms. This puts emphasis on the important contribution the security industry makes to ensure the sustainability and conservation of a CPGR, which includes all the fauna and flora on a reserve, for future generations. The chapter further reviews literature of key security functions.

3.2 THE COMMERCIAL PRIVATE GAME RESERVES IN THE TOURISM INDUSTRY

Activities offered by CPGRs for their tourists are classified as eco-tourism or nature-based tourism. Eco-tourism is a subset of the tourism industry and focuses on a more inclusive experience of nature, landscapes, fauna and flora (Kiper, 2013:773). Kiper (2013:774) and Edgell (2006:93) state that eco-tourism involves tourists visiting natural areas in order to learn and to carry out activities which develop the local economy. Lubbe, Du Preez, Douglas and Fairer-Wessels (2017:8) state wildlife tourism attracts substantial numbers of tourists worldwide. Lubbe et al. (2017:8) further states that Africa is the major wildlife viewing destination and beneficiary of nature-based tourism. South Africa's fauna and flora attracts millions of tourists per year (GCIS, 2017:7).

The tourism industry relies on the revenue created by public and private game reserves (Herbig & Warchol, 2011:2). The South African tourism industry is a significant contributor to the country's revenue with over R80-billion per annum (George, 2003:575). The financial contribution tourism makes to the South African economy can be studied in a report released by Statistics South Africa (STATSSA) named *The Tourism Satellite Account for South Africa* (March 2018). The report states that the tourism sector contributed 2.9% to South Africa's gross domestic product (GDP) in 2016 (STATSSA, 2018a:35). The report (STATSSA, 2018a:37) stipulates

that SA, directly or indirectly, employed 686 596 persons in 2016 in the tourism sector which has expanded to 726 000 in 2019 (Saunders, 2019) indicating a positive growth in job creation. A total of 3 698 819 travellers (arrivals, departures and transits) passed through South African ports of entry in August 2019 (STATSSA, 2019a:3) compared to 3 546 295 travellers in September 2018 (STATSSA, 2018b:4). It is important to recognise that CPGRs contribute to these statistics as a niche market.

Notably, there has been a drop of 1.3% of visitors from January to August 2018 and a further drop of 2% from January to August 2019 (Grohman cited in Slabbert, 2019). Although no clear evidence has been obtained by the researcher indicating whether the drop in visitor numbers is due to crime related issues, it is noted in another news article that a number of tourists are travelling to Kenya and Egypt as these destinations are seen as safer (Crous, 2019).

Most importantly, the identification of the key visitor markets must be made. The leading international countries visiting SA are indicated in Figure 1 and Figure 2 below. The top ten international countries in 2019 made up a total of 73.5% of the total international market (STATSSA, 2019a:4) and are grouped together as 55.7% from Europe, 18.5% from North America, 12.3% from Asia, 5.3% from Australasia, Central and South America contributing 4.6% and the Middle East 3.5%.

To determine the specific market share for a CPGR is difficult. The tourist accommodation report specifies the type of accommodation as hotels, caravan parks and camping sites, guest-houses and guest-farms and other accommodation (STATSSA, 2019b:3). Other accommodation is defined as lodges, bed-and-breakfast establishments, self-catering and others not specified elsewhere (STATSSA, 2019b:12). CPGRs have different business models and therefore all accommodation types are included as a CPGR accommodation type.

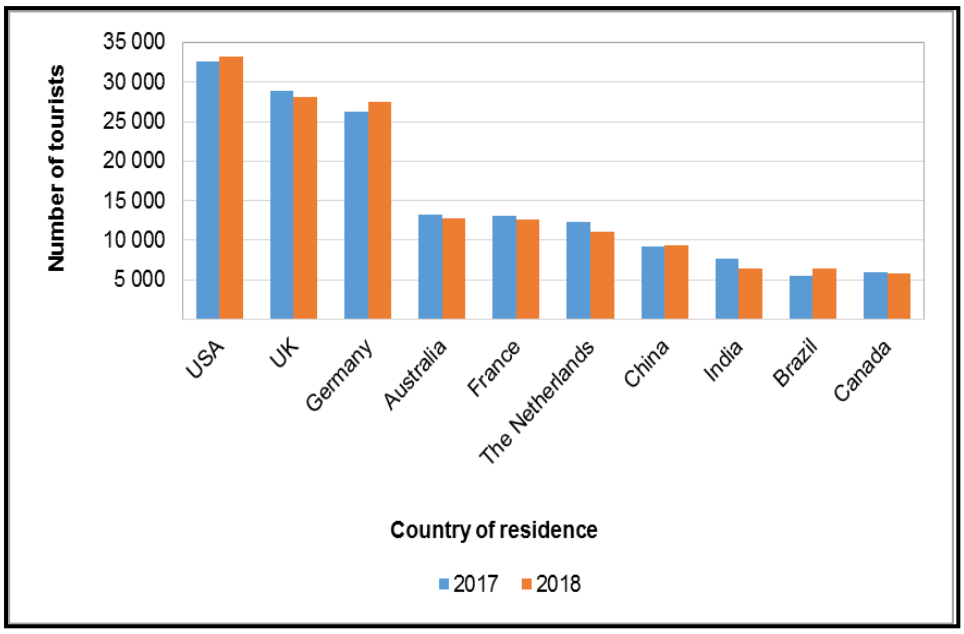


Figure 1: Number of tourists from the ten leading international countries visiting SA during September 2018

(Source: STATSSA, 2018b:9)

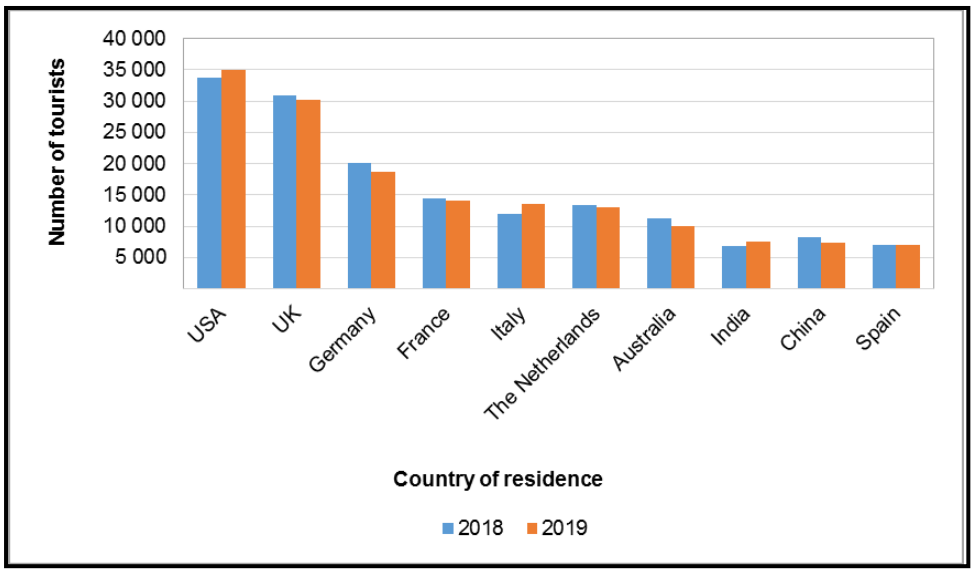


Figure 2: Number of tourists from the ten leading international countries visiting SA during August 2019

(Source: STATSSA, 2019a:7)

George (2003:575) and Ferreira and Harmse (2000:81) confirm that South Africa is seen as a high-risk tourist destination as it has high levels of violent crimes. This claim is supported by statistics released by the International Criminal Police Organisation

(Interpol), which indicates South Africa's exceptionally high level of violent crimes (George, 2003:575). In a news article published by the *Business Day* in 2018, the Police Minister Bheki Cele is quoted stating that crime statistics "bring us close to a war zone" with 57 murders average per day (Anon, 2018). The article continues to show that 20 336 people were murdered in the last year. This is the highest murder number South Africa has ever recorded, according to the article. The statistics over 10 years compare unfavourably with deaths in the Afghanistan war and even the bombing of Hiroshima (Anon, 2018) as Figure 3 indicates.

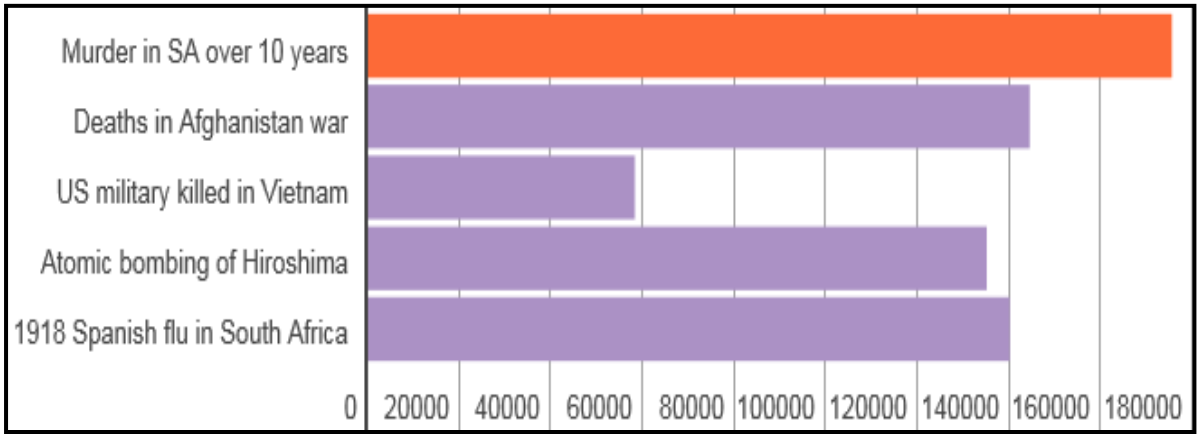


Figure 3: Comparing the murder rates in SA against major events in history

(Source: Anon, 2018)

3.2.1 The need for security on CPGRs

Crimes against tourist are often widely publicised and have an immediate effect in terms of declining foreign visitor numbers and the international image as a tourist destination (George, 2003:577, Ferreira & Harmse, 2000:81; Perry & Potgieter, 2013:101). The authors continue to state that although South Africa has a unique tourism product, the increase of interest could severely be affected by political unrest, violence and crime.

A tourist's perception of safety is a key factor in the decision making-process to visit a destination (Ferreira & Harmse, 2000:80; McIntosh et al., 1995:223). Therefore, the crime situation has the potential to create an undesirable image that could influence the tourism industry in SA. Crime may create fear of safety in the tourist's mind, and therefore may play a crucial part in the decision-making process. George (2003:577)

supports this by stating that a negative impression can be damaging to a destination's tourism industry and the result is a decline in visitor numbers. It is critical therefore, for a tourist destination to ensure the safety and security of current and prospect visitors. The government must also attend to high crime levels (Moyo & Ziramba, 2013:6). Copious amounts of money are spent on marketing SA as a tourist destination and it will be fruitless if tourists' perceptions of safety remain negative.

The lack of visitors to a CPGR would have a severe impact on the financial sustainability of the organisation. McIntosh et al. (1995:223) state that protecting tourists from offenders is essential to the survival and growth of the industry of wildlife tourism (Lubbe et al., 2019:8) that relies on the tourism revenue as a source of income to finance game reserve operations and conservation.

3.2.2 The identification for the need of a security strategy for CPGRs

Special strategies need to be developed and implemented to align a security risk mitigating plan and the financial targets of a CPGR. Although Oatman's (2006:37) literature refers to Executive Protection, he lists several key categories of information that also apply to game reserves. Oatman (2006:37) states that using historical threat information, personnel interviews of key persons in the principal's life, site visits and extensive outside research, the executive protection specialist studies the following information:

- The executive's exposure to various types of dangers
- The executive's attractiveness as a target
- The executive's public exposure
- The security measures currently in place for the principal

The researcher adds that, should this interpretation be applied to a CPGR, it would provide the security risk manager with the starting point to determine the game reserve's exposure to crime. Therefore, it applies as:

- The game reserve's exposure to crime/dangers
- The game reserve's attractiveness as a target
- The public exposure (reputation) of the game reserve

- The current security measures of the game reserve

(Adapted from Oatman, 2006:37).

This information shows the need to develop a security risk management programme.

3.3 CRIMES AFFECTING COMMERCIAL PRIVATE GAME RESERVES

CPGRs face different categories of crime. Various amounts of research have been aimed toward rhino poaching. Although this crime is of great significance to SA and to game reserves in general, the researcher intends to establish a holistic view of crime and its effects on CPGRs.

3.3.1 Defining wildlife crime aimed at CPGRs

The importance of wildlife crime, or crimes against nature, cannot be denied. Nurse (2015:22) provides a legal definition of wildlife crime as an offence that involves wildlife (fauna and flora) and constitutes a form of breach of legislation (national and international). The specific nature of a wildlife offence is usually contained within legislation and is outlined in the form of wording which prohibits those activities (Nurse, 2015:30). Moreto and Pires (2018:7) and Nurse (2015:112) state that wildlife crime is motivated by factors, such as traditional practises, bush-meat, pet ownership and products manufactured for jewellery and is caused by a weakness in wildlife law enforcement. Nurse (2015:112) identifies problems of wildlife law enforcement as the lack of resources, inconsistency of legislation, inconsistency in sentencing, the lack of police priority and inconsistency in policing approaches.

Moreto and Pires (2018:18) explain that wildlife crimes have ecological, economic and human costs. Countries such as India, Thailand, Kenya and the Democratic Republic of Congo experienced a large increase in park ranger deaths in recent years due to poaching conflicts (Moreto & Pires, 2018:21).

Clifford and Edwards (2012:5) describes conservation as maintaining natural resources to safeguard the economic benefits of them. Minnaar and Herbig (2018:148) add that conservation crime poses a threat to the African tourism industry which depends mostly on wildlife. Game reserves provide ecological conditions for the

existence of flora and fauna, and therefore any harm aimed at damaging this should be seen as a crime. Herbig and Joubert (2006:96) provide a clear definition to conservation crime as: “the intentional or negligent human activity or manipulation that impacts negatively on the earth’s biotic and/or abiotic natural resources, resulting in immediately noticeable or indiscernible natural resources trauma of any magnitude”.

The authors deduce that conservation crime can be aimed at both fauna and flora resources and argue that contamination crimes, such as pollution, could also be included as conservation crimes. Clifford and Edwards (2012:112) define an environmental crime as any act that violates an environmental protection statute. Nurse (2015:2) describes the term “green criminology” as the study of environmental and criminal laws, environmental criminality and the abuse and exploitation of animals. The importance of game reserve security is therefore accentuated as it remains a significant tool to detect conservation crimes. However, in reality, it is not always affordable for every game reserve to make use of security services, especially in the battle against rhino poaching (Minnaar & Herbig, 2018:161) that puts strain on conservation budgets (Gous, 2018).

Although much research has been done to investigate poaching, the illegal wildlife trade and crime aimed at tourists, very little has been done to investigate crime affecting game reserves and crime aimed at their visitors specifically. This is supported by Douglas and Alie (2014:271) who state that the relationship between security and conservation is inadequately discussed in literature.

The biggest current threat to wildlife is the poaching, smuggling and selling of animals or animal products. According to Douglas and Alie (2014:272), the value of the international wildlife trade is estimated at US$332 billion per annum. Proportionally to this, the illicit wildlife trade is estimated to be US$10 billion or more per year (Nurse, 2015:35; Douglas & Alie, 2014:272). Warchol (2004:58-59) describes illicit wildlife trade as unsanctioned international trafficking of wildlife and their parts and includes the illicit trade in elephant ivory, rhino horns and leopard pelts. McSkimming and Berg (2008:235) and Herbig and Warchol (2011:3) note that the motivation for poaching, amongst others, is commercial gain and household consumption. McSkimming and Berg’s (2008) main focus of research was primarily on the poaching of fish in Pennsylvania, North America (USA) and they have made the conclusion that poaching

could impact the local tourism industry as it endangers wildlife.

The researcher aligns this conclusion with the inference that poaching, regardless of the form, would impact negatively on tourism and CPGRs. In Naidoo, Fisher, Manica and Balmford (2016), specific research was conducted on the economic loss to tourism in Africa from the illegal killing of elephants. Naidoo et al. (2016) found the loss in economic benefits which elephants could have delivered to African countries is substantial and that these benefits exceed the costs of preventing elephant numbers declining in east, west and southern Africa. Lubbe et al. (2017:8) explain that natural areas and attractions rely heavily on tourism revenue for the conservation of protected areas. Therefore, the researcher values the integrated importance of tourism and security to ensure conservation and the protection of fauna and flora.

Recordable wildlife crimes may be categorised as poaching, natural resource crime, environmental crime and animal crime (Nurse, 2015:34). Wildlife crime, while generally well served by wildlife laws, suffers in its enforcement. Police perspectives generally view rural and environmental crime as less serious than urban, in terms of both intensity and type of crime (Nurse, 2015:94).

Nurse (2015:30) categorises wildlife crime as one of the following criminal activities:

- Unlawful killing or wounding wildlife
- Robbery – taking from the wild
- Disturbance of a protected species
- Cruelty and animal welfare offences
- Unlawful gambling
- Damage to property
- Illegal poisoning and unlawful storage and/or use of pesticides
- Theft and handling of stolen goods
- Deception
- Fraud and forgery
- Criminal damage of protected sites
- Firearm related offences

3.3.2 Conceptualising common crimes aimed at CPGRs

A CPGR relies on the tourism industry as a source of income to finance game reserve operations and conservation (vide section 3.2). Herbig and Warchol (2011:2) state that a conservation area with wildlife diversity attracts tourists who support the game reserve financially. This subsequently creates jobs for the local community in the area. The reality of South Africa is that crime will have an influence on visitor numbers. Moyo and Ziramba (2013:5) state that there are serious concerns regarding crime in the country and, once reported in the media, discourage tourists from visiting a destination. The main focus of their study is based on common crimes. These crimes include armed robbery, mugging, vehicle hi-jacking, attacks on vehicles and other incidents (Moyo & Ziramba, 2013:5). According to a news article (Van Aardt, 2011), certain lodges have closed due to criminal attacks on staff and visitors.

Perceiving a particular threat as either remote or likely, as well as being able to imagine the extent of the harm that can be done, will influence the level of preparedness undertaken in advance of such an event (Van Brunschot & Kennedy, 2008:7). Van Brunschot and Kennedy (2008:6), and Ortmeier (2013:82) state that, even if the perceived dangers are recognised, security may not prevent them. Fay (2011:119) adds that there is no mathematical method to determine the probability of crime but rather it depends on the experience of the security risk manager (SRM). Van Brunschot and Kennedy (2008:7) believe that the urgency with which threats are addressed will be influenced, not only by the presumed probability associated with them, but also by a willingness and ability to apply resources to combat them. Therefore, the willingness of a CPGR to reduce crime may be influenced by financial resources and/or the appetite for crime. This appetite to address threats will ultimately lead to the success or failure of a security risk management programme.

3.4 ANALYSIS OF A SECURITY RISK MANAGEMENT PROGRAMME OF A CPGR

An important departure point for a security risk management programme is to understand the concept of risk (Ortmeier, 2013:156). Security is hardly a new idea. Since the beginning of time, communities had some form of security to protect themselves against threats from nature, creatures and other humans (Simonsen,

1998:1).

Ortmeier (2013:3-4) describes security management as a multifaceted discipline which seeks to prevent loss and to protect property and human assets. Businesses differ in the way they conduct their affairs and, as a result, security programmes may differ (Ortmeier, 2013:5). Literature of an overall security programme of a game reserve is lacking but studies to counter rhino-poaching are available on various platforms which makes the analysis of a security risk management programme of a CPGR a challenge.

3.4.1 A need for a security programme

Simonsen (1998:22) defines security services as measures and efforts by individuals or organisations that provide protection for persons and/or property. A further description of security measures involves a referent object to be secured and this referent object must be clearly specified in order to add value to security (Van Brunschot & Kennedy, 2008:51). Ortmeier (2013:4) states that security involves keeping individuals safe and secure, the prevention of property loss and the protection of human and property assets. Ortmeier (2013:37) describes that a major part of security personnel activities is detecting and preventing crime.

With the knowledge that crime can have a negative impact on the tourism industry, and specifically on CPGRs, the researcher agrees with Lab (2004:16) who states that, people respond to fear in a variety of ways. Some individuals will avoid certain places at certain times or stop going there altogether. The aim of the game reserve management, specifically the security risk manager, is to ensure the crime threats to a CPGR pose little or no risk to the visitor. The executive management is ultimately responsible for the protection of the organisation's assets (Kovacich & Halibozek, 2003:95). Kovacich and Halibozek (2003:95) further state that the challenge for a security risk manager is to apply appropriate levels of protection in order to add value to the organisation's products and services. This will apply to a CPGR staff, visitors, infrastructure and wildlife.

There are also other needs for security on a game reserve. Ortmeier (2013:244) contributes that losses in the hospitality industry, other than through crime, could

impact negatively on the organisation. These include, inter alia, fire, accidents, natural disasters and litigation by tourists.

3.4.2 The role of a security risk manager

The term “security” is applied to many different facets of our existence. It is used to refer to our personal, physical safety, the safety of our belongings from damage or depredation and is also used with respect to our emotional, psychological and financial well-being (Johnston & Shearing, 2003:1). According to McCrie (2007:5), security is defined as the protection of assets from loss. The security risk manager (SRM) is the person who brings security and the execution of it together.

As a security risk manager, it is crucial for the incumbent to understand the risks associated with the particular industry. Risk can be described in terms of its potential for occurrence and its capacity for potential loss (Bolz, Dudonis & Schulz, 1990:26). Johnston and Shearing (2003:76) state that risk-based thinking is fundamental to the deployment calculation of managers and such calculations should maximise benefits to the product and minimise impacts which may arise from activities. Management refers to the way in which members of an organisation make key decisions on how goods and services are produced and to the process by which goals are achieved (McCrie, 20026; De Beer, 2005:4).

A SRM must develop the ability and skills to analyse vulnerabilities (Ortmeier, 2013:19). The term “vulnerability” is defined by Jenkins (1998:4) as a condition of weakness. A thorough analysis is comprehensive, accurate and leads to effective countermeasures (Fischer & Green, 1992:165). Van Brunschot and Kennedy (2008:13) note that good preparation, including identification of a particular threat, can mitigate exposure to that threat which, in turn, can reduce the amount of resources needed to create security in the face of responding to the event itself. A CPGR is exposed to a considerable amount of crime threats and risks. These risks often differ from normal security risks due to their circumstances. Game reserves are situated in rural areas, often far from towns and cities, which makes policing complex (SAPS, 2019:18). Rural police stations police are responsible for vast areas (SAPS, 2019:18). The security risk programme should therefore be unique and flexible to adapt to these circumstances.

The success of security programmes are measured through their ability to ensure no incidents occur. This is a challenge for CPGRs due to the vastness of geographical areas and expensive security costs (Minnaar & Herbig, 2018:156). Security costs are often unaffordable for smaller game reserves and impacts on their tourism viability (Minnaar & Herbig, 2018:156). A great burden has been placed on the private sector, according to Fischer and Green (1992:459), and some of the expectations will very likely not be met. Fischer and Green (1992:459) further state that security managers would be wise to remember that no system is completely effective.

There is a vast amount of literature on what the key functions of a manager should be. Van der Westhuizen (1990:20), Smit and Cronje (1992:5), Rossouw (2005:17) and De Beer (2005:25) list the four main functions of a manager as: planning, organisation, command and control. The current crime situation in South Africa warrants organisations employing a responsible competent person to manage, plan, organise and control the security programme. A manager is the leader of the security programme however, not all managers make good leaders (Fay, 2011:58). Therefore, not all leaders make good managers. Ortmeier (2013:114) describes leadership as a service to others which includes patience, humility and selflessness. Executives, regardless of their titles, are responsible for the planning and analysis of programmes required (McCrie, 2007:5). Fischer and Green (1992:99) state that the degree and nature of the authority vested in the security manager becomes important when this function is fully integrated into the organisation. The SRM must be the link between all stakeholders and relevant parties outside the organisation. It is therefore important to ascertain the critical needs of every organisation in order to employ the correct SRM.

With the combination of security and risk control with a management function or responsibility, the formation of a SRM is established. McCrie (2002:5) defines a SRM as a person who protects identified assets through personnel, procedures and systems under his or her control. The SRM is responsible for creating and maintaining a comprehensive security programme (Ortmeier, 2013:19). This programme traditionally involves the integrated management of physical security measures, technological aids and human resources management (McCrie, 2002:29). McCrie (2002:29) also states that a security programme will vary according to the type of organisation, its size and geography, recent crime history, criticality of resources and

vulnerability to losses. Ortmeier (2013:15) categorises the essential aspects for the SRM to consider as physical security, personnel security and information security. The SRM has an obligation to ensure that the security services rendered are compliant with all aspects of the law and supportive to the organisation's activities (Ortmeier, 2013:19). Because the SRM has a responsibility within the hospitality industry to also serve tourism, it adds a unique characteristic to the SRM profile. Positive relations with guests are imperative to complement the all-inclusive impression of the CPGR.

3.4.3 The security risk management programme

No security programme can guarantee that there will be no exposure to threats (Fischer & Green, 1992:459; Jenkins, 1998:1) and thus a process of analysing and evaluating vulnerabilities, probabilities and consequences of threats are essential to any risk management programme (Jenkins, 1998:1). Jenkins (1998:1) describes that the process of analysis identifies probable risks which creates the motivation for a security programme. The main aim of any security risk management programme is to implement countermeasures to reduce risk and the probability and/or impact of a loss event to an acceptable level (Fay, 2011:121). The CPGRs security risk management programme should serve as the barrier between the environment (the reserve) and the criminal (Ortmeier, 2013:82). Ortmeier (2013:82) states that the presence of appropriate controls could divert criminals from a protected area and that the amount of protection provided depends on how countermeasures are monitored and maintained. Whether at the individual or institutional level, we may perceive danger or potential harm as ranging from very likely to very unlikely. The danger is universally referred to as a threat and is defined by Fay (2011:118) as an event with the potential to cause loss or damage to an asset.

Risk is defined by Ortmeier (2013:157) as the possibility of suffering a loss and the exposure to loss and a risk involves a foreseeable threat to the organisation's assets, people, property, information and reputation. Ortmeier (2013:157) identifies five types of risk:

- Pure risk which is described as a potential for harm, damage or loss, for example, a criminal attack;
- Dynamic risk is when conditions vary for example seasonal tourism;

- Speculative risk exists when there is a potential for benefit or loss depending on the activity/inactivity, for example, new business ventures;
- Static risk is always present and is associated with the loss of a supplier; and
- Inherent risk is an unavoidable risk which occurs due to the nature of the business.

Risk is a calculation, based on values, choices, information and perspectives of the likelihood of harm or benefit (Van Brunschot & Kennedy, 2008:12). The most critical part of security measures would be the formulation of a security risk management plan to counter the identified risks. Failure to act against risks could cause harm to the organisation.

Risk management is defined by Rausand (2011:10) as a continuous management process where the objectives are to identify, analyse and assess potential risks in order to identify and implement countermeasures to eliminate or reduce potential harm to people, the environment or assets. Fay (2011:121) adds that managing the threat is the ability to reduce the probability or the impact of the loss event. Corporate risk management is orientated towards the prevention of loss (Johnston & Shearing, 2003:78). Risk management is defined by Fischer and Green (1992:164) as making the most efficient before-the-loss arrangement for an after-the-loss continuation of business and that a good risk management programme involves four basic steps, namely:

- Identifying risks or specific vulnerabilities;
- Analysis and study of risks, which includes the likelihood and degree of danger of a risk event;
- Optimisation of risk management strategies which are risk avoidance, reduction, spreading, transfer, self-assumption of risk or any combination thereof; and
- Ongoing study of security programmes.

All the definitions above formulate the same concept for the SRM of CPGRs to consider. The core realisation is the identification of risks of an organisation, the vulnerability of assets, the protection of the identified assets through the composition

of security countermeasures and the effective implementation thereof. The concept of risk management presents a sensible approach to this complicated problem. It allows risks to be handled in a logical manner through management principles (Fischer & Green, 1992:164).

Risk management is a continuous management process which often contains elements such as identify, analyse, plan, track, control, communicate and document (Rausand, 2011:11). Van Brunschot and Kennedy (2008:12) discuss a risk balance perspective that identifies elements, namely, the values that shape the views of dangers and threats, the choice made in calculating risks based on information available and decisions made regarding allocating resources to mitigate or alleviate harm. Ortmeier (2013:159) states the three factors to influence the risk management decision are the vulnerability to loss, the probability of loss and the criticality of a loss.

If the SRM understands the risks associated with a CPGR, the security risk management programme implemented must counter the risks to reduce them or to mitigate their impact. The risk balance pivots on balancing threats with resources to counter threats in order to achieve a degree of security (Van Brunschot & Kennedy, 2008:13). Johnston and Shearing (2003:5) add that, to feel secure, the perceived risk or threat should be below the comfort threshold (or risk appetite). Johnston and Shearing (2003:5) believe that comfort thresholds are not only determined by the threats perceived, but also by the confidence in the security countermeasures. SRMs are challenged with providing the necessary protection or countermeasure within a certain cost factor and the risk appetite of the CPGR.

In current financial times, the challenge for the SRM remains to keep security countermeasures affordable for an organisation and justifiable according to the extent of the loss (McCrie, 2007:290). In simple terms, a SRM should not implement a countermeasure costing R500 000 for an annual security loss of R10 000. The security measure implemented must be in balance with the risk perceived. Simonsen (1998:209) summarises that the security manager and the management team must make decisions based on a cost-benefit for general and specific countermeasures (cost versus benefit). Countermeasures are affected by overall management policies, available funds and whether the risk must be considered as part of doing business (inherent risk) or not**.** Such circumstances present smaller game reserves with a

security cost burden (Minnaar & Herbig, 2018: 156). Minnaar and Herbig (2018:161) state that smaller game reserves may be compelled to remove rhino populations to avoid excessive security expenses. Once the security cost is determined, the top management team must decide how to proceed and whether to implement the countermeasures. Simonsen (1998:209) states that the decisions are acceptance, avoidance, diffusion, transfer or reduction. Landoll (2006:375) adds that it is the duty of senior management to accept the security risk to the organisation assets. Landoll (2006:375) and Fischer and Green (1992:182) note that an organisation's level of risk acceptance or risk appetite, should be considered when selecting the recommended countermeasures. The security risks for each vulnerability found during the data-gathering phase, can be addressed through one of four ways of risk management methods:

- Reduce Risk: implement recommended safeguards or countermeasures to reduce the specific risk;
- Transfer Risk: purchase insurance to assign/transfer the risk to another party;
- Accept Risk: based on business mission and other factors, accept the identified risk; and
- Avoid Risk by eliminating the risk caused (Landoll, 2006:375).

Fay (2013:121) on the other hand, describes the methods of managing risk as:

- Avoiding the risk – place the target where it cannot be harmed;
- Reducing the risk – decreasing access to the target;
- Diffusing the risk – by implementing a barrier;
- Transferring the risk – to obtain insurance or to outsource the function to another party; and
- Accepting the risk – when management understands the risk and does not implement a countermeasure as the cost of protection does not justify the cost of a loss.

In most industries, insurance would be considered as the most practical safe and secure measure to apply to a perceived risk or loss event. Fay (2011:119) describes

the impact as a measure of cost and states that the replacement cost, repair, litigation and reputational damage should be taken into consideration. However, in the tourism industry where the commodity is the entire experience of the visitor, insurance would not be able to protect reputational damage should a tourist experience (and be emotionally affected by) crime whilst visiting a specific CPGR. Insurance would only cover the lost items of a guest, for example, electronic equipment, and if litigation occurs, but not the loss of income to the game reserve as a consequence of guests not returning to the destination due to fear of crime. This is emphasised with the use of social media today. Guests can instantly share a positive or a negative experience which can have a direct impact on the reputation of a CPGR.

3.4.4 The role of risk assessments in a security programme

Fay (2011:123) defines a risk assessment as a study of an organisation's exposure to loss in various forms and the effectiveness of the security measures that prevent loss. Ortmeier (2013:161) describe a risk assessment as a critical, objective analysis of the entire protective system. Fischer and Green (1992:165) add that specific threats are not always obvious and that the awareness of all the possibilities is the mark of a good security manager. It is imperative for the security risk manager to be able to identify threats, risks and hazards. One cannot apply infinite resources to address all of the risks that happen nevertheless, a number of threats, risks and hazards demand difficult choices in an attempt to balance risks against the resources at one's disposal (Van Brunschot & Kennedy, 2008:209). The researcher values the differentiation between the threats the security risk manager is able to reduce and the correct assessment methodology. The different threats according to Fay (2011:294) are:

- Natural disasters such as flooding;
- Man-made such as crime;
- Accidents such as fire and health hazards/Animal diseases;
- Liability claims (added by Van Brunschot & Kennedy, 2008:209).

The success of the security plan is dependent on the ability of the SRM to identify threats. Threats impact people, physical assets and information assets (Fay, 2011:294). According to Fischer and Green (1992:165), the first step in the risk

assessment is identifying the threats and vulnerabilities and considering specific vulnerabilities in a given situation. Security threats usually manifest themselves early in the existence of an enterprise and one should take note of these warning signs and act upon them proactively (Van der Westhuizen, 1990:195). Continuous assessments enable the SRM to make knowledgeable decisions to the benefit of the CPGR, the staff and its visitors.

The necessity of a SRM to be multifaceted is growing. The SRM should not only be aware of security threats, but also the entire safety, health and environmental (SHE) aspects. Molak (1997:93) states that the first step in conducting a risk assessment is to clearly define the problem. Ortmeier (2013:161) states a risk assessment entails an objective analysis of an organisation's entire security programme and should be conducted continuously to obtain data from which decisions can be formulated. Molak (1997:99) reveals that there are no uncomplicated answers for the reasons why people differ in their perceptions and reactions to risk. The deduction the researcher makes is that the severity of a risk is subjective to the individual and further influenced by the experience and exposure to crime or crime risks. Molak (1997:88) adds that there is an increased call for the use of risk assessments to assist in solving complex problems.

Bolz, Dudonis and Schulz (1990: 27) state that a common method to reduce risk is to harden the target by making it less vulnerable to attack or reducing the likelihood of a successful attack. Bolz et al. (1990:27) further state that, although risk can rarely be eliminated totally, it can be reduced. According to Nemeth (2010:119), the American Department of Homeland Security (DHS) posits new variables into its risk assessments formula primarily in two ways: the value of an asset and the impact on geography. The inference made by the author is that the greater the value, the more coverage, and the greater the impact on the populace, the higher the event will be placed on a risk rating or level The challenge for game reserves is the cost of security. Animals, which roam freely on vast areas, cannot be individually monitored 24/7 without some form of intervention. It is these animals, in particular, rhinos and elephants, which carry the highest threat of poaching. Contrary to Nemeth (2010), it is not always possible to put more coverage on a higher valued target. Nemeth (2010:118) states the DHS risk formula would be Risk = Asset value x Threat rating x

Vulnerability rating. Ortmeier (2013:160) formulates the risk level by determining vulnerability x probability x criticality and that the higher the result, the greater the risk and that loss prevention resources should be applied accordingly to the highest risk (Ortmeier, 2013:160).

In Oatman (2006:26) and Ortmeier (2013:161), the steps for the *General Security Risk Assessment Guideline* from the American Society for Industrial Security International (ASIS) is listed and discussed as:

- Understand the organisation and identify the people and assets at risk;
- Specify loss risk events/vulnerabilities;
- Establish the probability of loss and the frequency of events;
- Determine the impact of events;
- Develop options to mitigate risks;
- Study the feasibility of implementation; and
- Perform a cost/benefit analysis

Whatever approach is taken with risk assessments, it is critical to gather information, anticipate events and incidents, understand the value of assets and potential harm, and weigh and contrast the functionality and importance of geographic territory (Nemeth, 2010:120).

3.4.5 Risk identification in the security programme

Crime statistics are a generalised type of information that provides an idea of risk faced by a person in a geographical area (Oatman, 2006:49). Rausand (2011:62) defines two important concepts for the SRM to understand:

- Threat: Anything that might exploit vulnerability and with the potential to cause an incident;
- Threat agent: A person or a thing that acts, or has the power to act, to cause, carry, transmit or support a threat.

The term “threat agent” is used to indicate an individual or group that can impose a

threat (Rausand, 2011:62; Fay, 2011:314). Rausand (2011:62) says that, when security risks are analysed, it is fundamental to identify who could want to exploit the assets of a system, and how they might use them against the system. Van Brunschot and Kennedy (2008:34) imply that the means by which hazards and threats are identified have much to do with the assessment of probabilities. By identifying the threat agent to a CPGR, proper countermeasures are designed to minimise the exposure to the risk and/or threat. Security standards are cardinal to the success of a security risk management programme. Fay (2011:137) states that a circumstance present in an incident can be there as a result of a hidden cause. A hidden cause is a deviation from a standard, a poor standard or a lack of a standard (Fay, 2011:137). The SRM of a CPGR will have to ensure that proper security standards are in place and correctly retained in order to measure the risk assessment findings against it.

3.4.6 Physical security in a security programme

Physical security is the first line of defence against a potential threat (Ortmeier, 2013:82). Physical security planning includes protection of the grounds around the building, the building's perimeter, the building's` interior and its contents (Fischer & Green, 1992:186). Fischer and Green (1992:186) further state that natural and structural barriers are the elements by which boundaries are defined and penetration is deterred. Simonsen (1998:244) and Fay (2011:161) describe the concept of protective barriers in the use of physical security as a concept to deter, detect, delay, deny and to destroy whereas Ortmeier (2013:82) refers to it as the basics of defence that include alarms, barriers, devices and personnel or any combination of countermeasures. Fay (2011:161) describes the concentric protection scheme which, in summary, means the closer the perpetrator gets to the asset, the more in depth the security layers should be. Bewick (2013:3) indicates that the first layer of perimeter security for game reserves is the perimeter fence and that fence patrols must be conducted daily to inspect the functionality of the fence and for possible breaches.

Game reserves do not conform to the normal applicable literature because of the wide span of the perimeter fence and alternative use of building design. The SRM therefore faces a unique problem in protecting the assets of a CPGR. Normally, security programmes protect stationary environments. However, what if the assets are mobile, such as animals? In certain aspects the cash in transit industry (CIT) would face similar

challenges. Nevertheless, in the CIT industry, the assets (money or other tangible assets) are stationary inside a vehicle which provides a protective barrier and other security measures in close proximity. The main challenge for a CIT company is to move assets from one building to another.

In most circumstances the SRM will make use of security lights, intruder alarms, closed circuit television (CCTV), physical guards and other security measures (Fay, 2011:157; Ortmeier, 2013:82). The CPGR is stationary but some assets, such as animals, are constantly moving around. This creates a unique challenge for the CPGR SRM. CPGRs are also large properties, ranging from hundreds to thousands of hectares and therefore normal security lights and perimeter fence intruder alarms are either impractical or simply too expensive to implement in certain areas. Lights would cause light pollution and would also remove the aesthetic of the bush experience which is an attribute attracting visitors (GCIS, 2017:7). The substantial size of properties challenges certain conventional security measures in their application and use.

The animals are constantly moving around, day and night, therefore the threats they face are also moving around. The reserves not only face the common crime threats of robbery, housebreaking, theft, arson and malicious damage to property, but also face the threat of subsistence poaching, the poaching of rhino and elephant for ivory and poaching of plants or other living organisms (for example fish) (Hübschle & Faull, 2017:3-4; Gosling, 2014:9; Sims-Castley, Kerley, Geach & Langholz, 2005:12).

Herbig and Warchol (2011:2) believe that more has been done to understand the motivation for a person to poach than to examine why protected areas are easy to penetrate. Recently, the number of rhinos poached has escalated to numbers never seen before. This crime happens mainly in Africa due to the concentration of rhino populations. *Diceros bicornis* or black rhino and *Ceratotherium simum* or white rhino are indigenous to Africa with a combined number estimated below 25 000 in-situ animals left in Africa (https://www.savetherhino.org/). Although the threat of poaching is not a new crime, the intensity of rhino poaching has escalated over the past years.

Table 1: Number of in-situ rhinoceros per sub species left in the world

Rhino Species	Population
Javan Rhino	<70
Sumatran rhino	<80
Greater one-horned rhino	<3 600
Black rhino	Between 5 366 and 5 627
White rhino	Between 17 212 and 18 915

(savetherhino, 2020)

The numbers of the rhinos poached on average in 2018 were at least 1.5 to 2 rhinos per day in South Africa (vide table 2). This creates a further need for a SRM to critically evaluate the security programme to ensure the safety of staff, visitors and wildlife of a CPGR if such game reserves own these animals.

Table 2: Total number of Rhinoceros poached for their horn in South Africa

Year	Total Number
2008	83
2009	122
2010	333
2011	448
2012	668
2013	1004
2014	1215
2015	1175
2016	1054
2017	1028
2018	769
Total since 2008	7 899

(Stoprhinopoaching, 2018)

The Limpopo province specifically lost 484 rhino's from 2013 to 2017 excluding the Kruger National Park (Minnaar & Herbig, 2018:151).

Herbig and Warchol (2011:4) state that the likelihood of crime to occur increases when the following three conditions are present:

- The presence of a motivated offender;
- The presence of a suitable target; and
- The absence of a capable guardian.

This motivates the use of well-trained competent security personnel as part of a comprehensive security risk countermeasure programme in order to remove or strengthen a condition (Bewick, 2013:7).

3.4.7 Technological security in a security programme

Comprehensive security programmes involve one or more measures to protect assets and people (McCrie, 2007:291). Whereas physical security involves physical obstacles and people, technology requires communications and a form of electricity (McCrie, 2007:291). McCrie (2007:291) further states that technology performs complex monitoring operations however, new technology may contribute to the services rendered by security programmes.

The conventional uses of technology are arguable. Ortmeier (2013:85) and McCrie (2007:297) advise the use of lights and perimeter lights to deter intruders. The practicalities of this for game reserves' fence lines are questionable. Fay (2011:158) adds that the environment or surrounding area will influence the choice of countermeasure. The same questionability is raised with the use of fences which are described by Ortmeier (2013:85) as providing minimum security as the purpose is to define the perimeter or the border of the property. However, Ortmeier (2013:86) and Fay (2011:164) state that, to improve the fence integrity, alarm sensors or other intrusion detection devices may be added

The use of closed-circuit television (CCTV) is invariably part of most security systems (McCrie, 2007:299). CCTV enhances security effectiveness and efficiency (Ortmeier, 2013:91). Fay (2011:190) describes the disadvantages of CCTV as expensive to purchase, requires maintenance and may be complex in operating. McCrie (2007:314) states that the technological design should consider factors, such as the crime prevention strategy, human factors and the change in technology, operational factors, communications, lightning, terrain and cost of the initial design.

Modern technology is being incorporated by some game reserves as a countermeasure for poaching. A game reserve in the Waterberg area of Limpopo is experimenting with sensors to track the movement of animals in order to obtain data of movement and establish abnormal behaviour (Gous, 2018). Caboz (2018)

describes a game reserve near the Kruger National Park that uses thermal imaging cameras to reduce illegal intrusions after overcoming the challenge of getting the equipment to work in the bush. Caboz (2018) continues that the reserve installed reserve area network systems through which the team can connect, operate and power devices over large distances. Acoustic sensors will activate sirens in the control centre when fences are cut and there are also magnetic sensors installed that recognise firearms should they pass by (Caboz, 2018). The article also reports that the use of technology has been applied to identify movements of poachers and that it is used proactively. The one measure that is not successful in its application is that of the use of drones, as Caboz (2018) reports, the area is simply too vast and the search for poachers with drones is time consuming.

3.5 CONCLUSION

This chapter contextualises security measures contributing to the security risk management of a CPGR. The researcher established the security measures bearing in mind the application of them in reference to a specific CPGR. The importance of the tourism industry was reviewed and the contribution it makes to the SA economy. Ferreira (1999:322) states that safety, tranquillity and peace are required for the tourism industry to be sustainable.

The fundamental security needs for CPGRs were identified and discussed. Crimes affecting CPGRs were identified to an extent with the understanding that wildlife crimes and common crimes have different impacts on CPGRs. The importance of security risk management and the use of risk assessments were discussed. The most popular security measures, which are physical and technological measures, were discussed. The next chapter will contextualise important factors contributing to a security risk countermeasure programme for commercial private game reserves.

CHAPTER 4
FACTORS CONTRIBUTING TO A SECURITY RISK MANAGEMENT PROGRAMME FOR COMMERCIAL PRIVATE GAME RESERVES

4.1 INTRODUCTION

Fischer and Green (1992:3) state that the concept of security has evolved over years and has been shaped by many organisations. Security risk management for a CPGR is constructed as a countermeasure programme formed from different factors. McCrie (2007:3) adds that security operations are protective aims of an organisation and it is critical for the risk practitioner or security risk manager to ensure a balance between the organisation's operations to achieve its goals and not hinder to staff, visitors and others whilst protecting them from any harm.

The aim of the research (vide paragraph 1.4.1) was to identify, analyse and scrutinise security measures of commercial private game reserves (CPGRs) in Limpopo however there is little literature to provide guidance in that regard. *The Asset Protection and Security Management Handbook* (Walsh, 2003:19) guides the researcher to the understanding that an effective security programme is based on the actual risks an organisation faces. Only once actual risks are determined, can reliable and quality countermeasures be designed. These countermeasures (Walsh, 2003:9) apply to people, hardware and software. People refers to the entire security staff used in a security programme, hardware refers to physical and technological security countermeasures and software refers to written policies and procedures or any other directives used by an organisation to protect itself. This determination is important for the researcher in order to group together the security measures investigated.

It is wrong to assume that all CPGRs can afford standard security measures, or that conventional literature applies. Minnaar and Herbig (2018:161) state that the costs of maintaining a security programme, especially for private game reserve owners with rhino populations, is becoming an expensive burden and has forced the removal of rhino populations by some private owners to avoid the risk of poaching. This crime affects the rural economies as rhino poaching impacts the sustainability of smaller game reserves as tourist attractions with the absence of these animals (Minnaar &

Herbig, 2018:161). The researcher agrees with the statement, however, that rhino poaching is not the only crime affecting smaller game reserves and rural economies. Carin Smith (2019) reports in a survey conducted by SA Tourism (SAT) that 18 countries indicated safety and security is a concern when visiting SA. With the focus being on CPGRs, this concern manifests as incidents occurring on game reserves that were reported by media such as:

- “Kuiergas skiet rower in oord in reservaat dood” translated as “Guest shoots robber dead at resort inside reserve” (Cornelissen, 2019);
- “Attacks force game lodges to close” (Van Aardt, 2011); and
- “Holiday bloodbath; pregnant mum hacked to death as she slept and husband savagely stabbed in front of son, 2, on luxury South African beach holiday” (Pyatt, 2019). This incident occurred on a nature reserve.

With the absence of a formal security standard to compare the security of CPGRs to, the researcher used a generic approach to analyse generalised security countermeasures and their application. However, the security countermeasures are not regarded as less effective for a CPGR to protect its staff, visitors and wildlife.

4.2 THE HUMAN FACTOR IN A SECURITY RISK MANAGEMENT PROGRAMME

The most important and expensive factor in a security risk management or security countermeasure programme is people (Walsh, 2003:9). Security personnel could be proprietary (in-sourced or in-house), contracted staff (out-sourced) or a combination of both. Whether an organisation is small or large, a competent individual should ensure administration and the effective functioning of a security programme. The researcher identifies the security employee (security officer) and a security manager as the main human factors in a countermeasure programme.

4.2.1 The Security Employee

The security employee often forms a major component of a security programme (Ortmeier, 2013:103). Simply stated, alarms need a person to respond to them and CCTV cameras need a person to monitor them (Wildlife campus, [sa]:10). Over the

years, the roles and responsibilities have changed for security officers. The security industry is growing with more members than the SAPS, (Businesstech, 2019) a reality experienced worldwide. The article in Businesstech (2019) indicates there are about 193 000 SAPS members employed versus 498 435 employed security officers throughout SA. This indicates a security need by citizens and businesses which the SAPS cannot provide

Fischer and Green (1992:117) state that security staff are often the best asset to the organisation. Well trained and well-motivated staff can detect intruders, apprehend trespassers and make decisions if and when necessary. In an industry that has many risk variables, it is critical that the staff member is adaptable to the environment and event occurrences. Johnston and Shearing (2003:30) show that the private security industry plays an important role in protecting the interests of a client's private property considering the shortage of police members. Fay (2011:153) states that it is difficult to measure the value of a security officer since the loss prevention which the employee contributed cannot be seen or quantified. A comparison of yearly losses of an organisation is a measuring tool to determine the effectiveness of security employees. Security employees are at the forefront of many security programmes and most often are the first contact with visitors in most industries whilst performing their duties. McCrie (2007:46) describes the security guard service as visible security with protective functions. Fischer and Green (1992:27) and Fay (2011:141) list many functions of security employees which include crime prevention, physical security, fire prevention and investigations. McCrie (2007:253) notes that the core functions of security staff are to deter crime, delay offenders, detect incidents, respond to incidents and to report incidents and other relevant information.

Security professionals are hired by almost all kinds of organisations at different levels from lower to upper management. Ortmeier (2013:106) states that personnel security and integrity are essential to organisational success. The U.S. Department of Labour has identified security as one of the fastest-growing fields of employment (Fischer & Green, 1992:27). Simonsen (1998:181) makes an important contribution in stating that smaller operations and community-based security programmes have moved toward the view that employees are motivated by social as well as economic satisfactions. Ortmeier (2013:106) emphasises the importance of employing honest and dedicated

people. The desire to use humans in security programmes manifests in their ability to perform various tasks and problem-solving skills.

In addition, Simonson (1998:141) stresses the importance of professional security in the lodging industry. McCrie (2007:254) adds the security officer reflects the image of the employer and should appear suitable at all times. Hiring competent people can be costly, slow and frustrating, according to McCrie (2007:65) and the optimal person would not be deterred by times of low unemployment, the rise in compensation costs, and the pool of potentially weak candidates. Ortmeier (2013:112) lists various consequences for poor hiring, including losses due to theft, increased insurance claims and an increase in vicarious liability. Bewick (2013:7) states that the selection of security personnel working at game reserves should be done carefully as they require skills which security companies in cities and towns do not possess. Wildlife Campus ([sa]:2) states that private game reserves are targeted for poaching as they do not have the knowledge to employ trained game guards. A game guard (Wildlife Campus, [sa]:4) is described as a person tasked to guard game (wildlife) on a private game reserve or nature conservation area. The game guard is specially trained to work under the strenuous conditions of the game reserve anti-poaching milieu.

Wildlife Campus ([sa]:9) continues that an alternative is to make use of a game security company or a commercial security company however the disadvantages of such companies are their lack of commitment and of specialised training. Herbig and Warchol (2011:13) found in their study that the quality of guardianship is more influenced by the quality of their field rangers and supervisors than the natural features of the site and that when these guardians are present in full, the poaching risk decreases. Therefore, the security staff performing specialised duties needs specialised training and supervision.

4.2.2 A need for supervision

McCrie (2007:121) describes the importance of proper supervision over security staff. The title of supervisor may differ in organisations. The most commonly known title would be a security supervisor and/or security manager but for this study, reference will be made to the security manager. McCrie (2007:139) indicates that supervisors and managers are responsible for achieving and maintaining high levels of productivity

within the organisation.

Ortmeier (2013:19) indicates that the role of a SRM vary and that the manager must be able to perform a wide range of roles and responsibilities. The SRM (vide paragraph 3.4.2) plays a critical role in the security programme. The incumbent would be the link between security staff and the game reserve's top management. The personal profile and significance of the SRM will differ between organisations and industries. In reality, not all commercial game reserves can afford to employ a SRM on a full time basis and may have another responsible person (or risk practitioner) overseeing security related issues and functions. McCrie (2007:29) adds that the recent history, criticality of resources and vulnerability to loss will also have an influence. Therefore, to generalise specific attributes and competencies is not appropriate. Factors that would influence such competencies are the location of the property or CPGR, the size of the property, number of staff and the size of the organisation.

McCrie (2007:29) states that a manager cannot be competent in every aspect of security risk management but should meet certain expectations required by a security programme. Fischer and Green (1992:107) and Ortmeier (2013:19) refer to managerial, administrative, preventive and investigative roles of a security manager. McCrie (2007:30) lists the core competencies as the ability to initiate new programmes, to operate existing programmes and handling personnel administration. Van der Westhuizen (1990:21) names six additional management functions as: communication, delegation, incentive, co-ordination, discipline and decision-making. The security manager is responsible to ensure that proper training and motivation is provided to the security staff to achieve maximum productivity.

4.2.3 The need for staff training

McCrie (2007:95) states training and development of security officials' skills are critical and can be linked directly to a higher performance and output by the security staff. A CPGR has various tourist activities and security training may be an important contributing factor to the overall tourist experience. Fay (2011:142) states that security training standards are often inconsistent however, Ortmeier (2013:186) indicates, for training to be effective, the knowledge, skills and ability of the individual should be the determining factor. Ortmeier (2013:186) indicates there are two main orientations to

training, namely, training and education. Training refers to workplace environment and education in developing knowledge and both could enhance the performance of security staff.

The application of security training to CPGRs may differ in some respects to conventional training (Wildlife campus, [sa]:5). McCrie (2007:98) supports this by stating that security-orientated training requires various types of training for different purposes. McCrie (2007:98) continues that changes in the workplace and society motivate the review of training programmes and for the content to remain pertinent. Courses tailor-made for game reserves provide individuals with the required skill set to perform security functions in this unique environment (Wildlife campus, [sa]:6).

4.2.4 Staff vetting

Before security staff can be employed, the relevant skill, knowledge and qualifications for the position must be determined (Bewick, 2013:7). The security manager must have confidence that the security staff member employed is free of any security doubts (criminal record) or personal risks and this is achieved through pre-employment screening (McCrie, 2007:57). McCrie (2007:57) describes staff vetting or pre-employment screening as a critical process. Ortmeier states (2013:108) that improper staff selection could have devastating consequences for an employer. Staff vetting should be done prior to employment and the employee should be tested (screened) annually after employment occurs (Ortmeier, 2013:108). Mdluli (2011:40) adds pre-employment screening is done by employers during the selection phase to determine the suitability for the job and to eliminate doubt about the integrity of applicants. The author continues to state that the screening is used to verify a candidate's drivers' licence, qualifications and identity document.

Although the concept of staff vetting and/or pre-employment screening could be contested and argued with positives and negatives, staff vetting is advantageous to the organisation if applied correctly. Criminals often pay money for information and this could be tempting for a security officer who has large debt and receives a minimum salary (Wildlife Campus, [sa]:5). McCrie (2007:57) states that security employee vetting is required due to the high level of trust expected in the positions. The security manger would, through this process, ensure that any doubts about an applicant will be

eliminated and if there is such doubt, safeguard the organisation from employing that person.

Fischer and Green (1992:319) state the main objectives of the security programme are to prevent theft by employees and to prevent security personnel stealing and this shows the importance of staff screening. This is crucial to prevent the tourist from experiencing crime. The most common checks to perform are credit record check (to make sure the employee has no large debts outstanding), a criminal check (to ensure the member does not have a criminal record) and to verify the identity of an individual (people make use of false documentation to obtain income) (Fay, 2011:13; Ortmeier, 2013:109).

Simonsen (1998:38), Ortmeier (2013:108) and McCrie (2007:73) state that screening requirements would require applicants to undergo checking of references from previous employers, proof of citizenship, credit check and a criminal background test. Fischer and Green (1992:326) and McCrie (2007:78) indicated the same requirements, but also added that the use of polygraph (lie-detector) tests could be a useful tool to detect untruthfulness. McCrie (2007:90) summarises reliable pre-employment screening is at the core of successful operations management. The researcher therefore highlights the importance of staff vetting at CPGRs within any security programme.

4.2.5 Security staff operations on CPGRs

Specialised security operations are often associated with game reserves, especially those that have rhino populations. Wildlife Campus ([sa]:2) states that game reserve security operations need well trained game guards who are mobile and have equipment which allows them to perform their duties and who are supported by managers and good intelligence. Various skills (Bewick, 2013:8) should be taught to the game guard or field ranger in order to reduce the risk of poaching.

Moreto and Pires (2018:165) note that field rangers do not deter rhino poachers as field ranger patrols do not cover much land by foot. Barichievy, Munro, Clinnig, Whittington-Jones and Masterson (2017:555) advise, according to the International Union of the Conservation of Nature (IUCN), that the capacity of a ranger is one per

100 square kilometres. Herbig and Warchol (2011:12) add that smaller reserves with an extensive amount of protection through owners and rangers prevent animal loss whereas larger reserves with a smaller staff complement and the inability to patrol suffer more loss of plant, reptile and other marine organisms such as abalone.

Barichievy et al. (2017:555) state that foot patrols are the most popular deterrent countermeasure on game reserves and indicate that there are obstacles to maintaining such operations. These obstacles are indicated as inter alia financial and human resources, time constraints to manage staff and the upkeep of equipment (Barichievy et al., 2017:555).

Bewick (2013:3-4) discusses the importance of regular fence line patrols to identify penetration into the game reserve and that technological measures, such as sensitive ground sensors, closed circuit television (CCTV) and beams, can be used to monitor fence lines. Another crucial security operation, as indicated by Bewick (2013:6), is conducting access control by security staff. Besides access control, staff can conduct searches at the gates to detect any contraband materials entering or leaving the reserve (Bewick, 2013:6).

These operations are described with the assumption that the game reserve has the financial means to employ anti-poaching personnel and/or security services. Even the identification of certain technological measures is done without consideration of the financial implications to a game reserve. Game reserves vary in sizes thus, the larger the property, the more technological infrastructure implementation and maintenance upkeep will cost. If a CPGR does make use of security personnel, the option is to use proprietary employees (in-sourced), contract employees (out-sourced) or a combination of services.

4.2.6 The use of proprietary employees versus contract employees

The CPGRs will differ in their requirements with reference to the employment of security staff and security services. The security risk manager or risk practitioner is not always be in the position to decide if the security programme must make use of proprietary, contract security staff or a combination. Before implementing a security option, management must decide on the specific options (Van der Westhuizen,

1991:55) which are:

- Develop and train own, independent, hand-picked security force (proprietary);
- Employ a hired security force (contract security);
- A combination of both options.

It is important to note that some organisations may choose a combination of services (McCrie, 2007:253). This creates its own challenges and benefits. Ortmeier (2013:18) names this a hybrid security organisation. This is when functions are integrated and merged with other departments.

The argument of in-sourcing or out-sourcing is debateable but, in the end, the preference of top management will prevail. Fischer and Green (1992:82) state that the subject of contract services versus proprietary services has been the subject of much research. They conclude that the question of which service is the most sensible, will remain with the responsible manager or the organisation. Security services or personnel may be outsourced when such personnel do not perform their duties. According to Stees (1998:119), the sign of outsourcing reveals itself through a reduction in the quantity and types of services contracted. Stees (1998:119) further states that the level of training may not reach the standards required of an in-house security operation or the level of attrition within a contract service and may be disruptive to the client's business in particular if the contractor was selected on the basis of the lowest bid. Stees (1998:121) also mentions that the ability and willingness of contractors to commit themselves to quality and excellence, may affect the growth or decline of a security service. Wildlife campus ([sa]:9) indicates that commercial security often is used to conduct access and egress control and to patrol lodges and are usually not trained for field patrolling and anti-poaching work.

Security services can provide the local community with employment opportunities and be beneficial to a CPGR. However, it is very important to understand that in-sourced and contracted personnel structures have advantages and disadvantages for a CPGR. Various authors describe the advantages and disadvantages of proprietary employees versus contract employees as shown below.

Author	Advantages of proprietary security	Advantage of contract security
Van der Westhuizen, 1991:49	More reliable than outsiders	No administration burden
Ortmeier, 2013:17	Low attrition and stability	Fewer direct personnel problems and flexibility
McCrie, 2007:249-251	Greater site knowledge and greater employer loyalty	Less total cost normally
	Disadvantages of proprietary security	**Disadvantage of contract security**
Van der Westhuizen, 1991:49	Hard to find suitable replacements	High personnel turnover may affect the effectiveness
Ortmeier, 2013:17-18	Higher cost and lengthy disciplinary processes	High attrition and inadequate training
McCrie, 2007:249-252	Complications in planning due to schedule changes	Perception of less quality employee

For CPGRs, all security personnel structures are optional and financial conditions, the organisation's preferences and other factors will determine the preferred structure. Fay (2011:155) notes the issue of liability as security personnel should be trained, and proper supervision must be implemented especially with game reserves which make use of firearms.

4.2.7 Intelligence gathering

Bewick (2013:11) states that the key to success of a game reserve security programme is the ability to gather, produce and analyse intelligence. Although it might sound contradictory, information-gathering is at the same time the easiest, as much information already exists, and the most difficult of tasks (Bolz et al., 1990:18). The difficult part is that no one can know with what degree of certainty what kind of information will be the most useful (Bolz et al., 1990:18) for a CPGR. Criminal intelligence involves gathering of information about possible criminal activities and

threats to an organisation (Ortmeier, 2013:220).

Security companies need information to assist in security programmes. It is advantageous to know if a threat is imminent, so the necessary precautionary steps could be taken or to plan (Bewick, 2013:11) anti-poaching operations in an area. Nemeth (2010:280) states that intelligence, in a sense, is the lifeblood of security operations. He further states that, according to the American Department of Homeland Security (DHS), intelligence is an information assessment. Nemeth (2010:281) notes that intelligence is about the routine, everyday observations and activities. Bolz et al. (1990:19) add there is no indication of when enough information has been gathered. Bolz et al. (1990:19) categorises types of information required into three groups:

- Targets – these include human resources and physical assets;
- Target profile – Subjective information dealing with people's perceptions of all the potential targets listed above;
- Terrorists (criminals) – Knowing the enemy.

Moreto and Pires (2018:176) reveal the importance of converting information through analyses into useful intelligence to reduce crime or, in the case of a CPGR, allocate limited resources in a more effective manner. Van Brunschot and Kennedy (2008:76) state that the increased use of intelligence in policing has encouraged the analysis of crime and related events in the context of identifiable patterns of repeat events. This can be viewed by the clustering of crime using density models to identify hot spots and to examine how certain areas become places where crime is more likely to occur.

The main focus is on two intelligences sources which contribute to a CPGR, namely, maps and informants.

4.2.7.1 The use of maps

The use of maps to record (plot) incidents is a tool used to gather information and to indicate weak areas in the physical barrier or crime events in an area. Balogun, Okeke and Chukwukere (2014:454) found that the use of crime maps could be traced back to as early as 1900 with the New York Police Department (NYPD) making use of crime maps. Ortmeier (2013:165) describes the success of the NYPD in reducing crime has

been done by using comprehensive data collection and indicating the recorded data on maps. Caplan, Kennedy and Miller (2011:361) add the identification of crime mapping can direct police activity however there is also a conception that the use of maps are reactive and cannot always predict where crime may occur. The use of maps for the CPGRs remains a source of intelligence. Hill and Paynich (2014:13) state crime data varies in sources and data must be known to the user as the strength or weakness of the data could have an impact on the results. Data for the use on maps for a CPGR can be retrieved from patrol reports and intelligence sharing from different sources.

A map is a device that indicates the location of a crime event and is more efficient than crime statistics listed on a location graph (Wallace, 2009:8). Caplan et al. (2011:365) state when layers are combined on a Geographic Information System (GIS) of a risk terrain, a map is created. The value of risk or crime accounts is formulated on the map and indicates where the crime location may occur in the future by the use of a higher risk value and greater likelihood of crime scale (Caplan et al., 2011:365).

The advantage of crime maps information is the real-time statistical information they illustrate. Balogun et al. (2014:454) state crime has spatial attributes, for example location, time and process. This information is crucial for the CPGR manager to record crime on maps, and by this process, a holistic crime risk picture is created. Caplan et al. (2011:362) adds that crime has generators and attractors. Attractors are described as the things that attract criminals to places to commit crime and generators involve the influx of people into an area which creates an opportunity for crime to occur (Caplan et al., 2011:362)

Geographic profiling is a tool used primarily in the investigation of serial offences such as robbery (Paulsen and Robinson, 2004:137). Paulsen and Robinson (2004:183) state that as computerised mapping has become more widely adopted in policing and that investigations have increasingly turned to mapping and its use. Mapping has different uses, namely, mapping serial offence patterns, mapping of criminal intelligence and geographic profiling (Paulsen & Robinson, 2004:183-184). According to a study done by Balogun et al. (2014:454), it was found that the Nigerian policing methods are still manual and that this limits the police from having the technical edge over criminals indicating the contribution maps make to combatting crime. This

limitation can be eliminated with the application of maps through record keeping of incidents and mapping them to create a risk profile for a game reserve or the area.

Paulsen and Robinson (2004:183) and Poulin and Nemeth (2005:274) indicate that serial offence patterns include plotting locations of crime incidents, such as burglaries and robberies, and, once these patterns are identified, the police or the game reserve security can focus resources to deter crime risks. Lab (2004:35) states that the physical characteristics of an area can influence the behaviour of both residents and potential offenders. The geography will play a role to determine certain hotspots or high activity areas. According to Caplan et al. (2011:361), spatial analysis using mapping techniques can be seen as an effective crime fighting technique. Although there is very little evidence that mapping can precisely predict crime patterns, or the likelihood that crime will occur in a specific area, it remains a valuable tool to assist a CPGR risk practitioner in formulating a security plan and gathering intelligence. Caplan et al. (2011:361) state that an alternative approach to establish the likelihood of crime occurring is to identify the factors that enhance or reduce crime in a specific location.

4.2.7.2 The use of informants

Minnaar (2011:90) indicates that an informer is a valued source of information when there is a lack of willingness from citizens to provide information or when crimes are not reported. Minnaar (2011:91) explains that, for the risk owner to yield maximum results from the informer, he/she must be treated well and handled with sensitivity and respect. Bewick (2013:11) adds that an informer's safety is paramount and his/her identity should be kept secure. Minnaar (2011:95) states the information provided by informers differentiates the success or failure of crime prevention. Neighbouring communities are valuable sources of information (Minnaar, 2011:84). Bewick (2013:12) adds that lodge staff and local businesses as possible areas for the informant to target or to infiltrate.

Covert operations are also methods used to gather information (Ortmeier, 2013:222). This often happens when a person is inserted into the organisation's workforce. If a criminal enterprise is making use of agents, they can divulge important operational security information, and this is known as counter-intelligence gathering (Bewick, 2013:14). This accentuates the importance of proper staff vetting prior to employment

and the continued use of personnel screening throughout as yearly operations.

4.3 THE CONTRIBUTION OF CRIME PREVENTION IN THE SECURITY RISK MANAGEMENT PROGRAMME

Multiple strategies exist for crime prevention which includes inter alia education, treatment, rehabilitation and deterrence through law enforcement and security operations (Ortmeier, 2013:48). Nurse (2015:136) describes social crime prevention as a method of addressing crime factors and criminal behaviour that leads to a reduction in crime. For a CPGR, this could include educational programmes in the community. Criminals are unable to commit crime without the consent of the community as the community receives benefits from wildlife sources or the game reserve (Nurse, 2015:137).

The optimum crime prevention plan remains a critical feature in any security risk management plan (Johnston & Shearing, 2003:74). A crime prevention strategy reduces and deters crime occurring on a CPGR. Herbig and Warchol (2011:9) found that offenders were present in close proximity to game reserves as part of large communities with high unemployment rates. These game reserves or conservation areas had wildlife resources that offenders want to utilise (Herbig & Warchol, 2011:9). These offenders, Herbig and Warchol (2011:9) describe as subsistence and commercial bush-meat poachers, ivory and rhino poachers, abalone poachers (in Western Cape) and poachers of plants, reptiles and insects.

Many residents who participate in community crime prevention programmes are part of other community groups (McSkimming & Berg, 2008:237) such as a neighbourhood watch, community policing forums or farm patrols or any other group of civilians assisting each other and the SAPS with crime prevention (SAPS, 2019:18). Lab (2004:23) defines crime prevention as an attempt to eliminate crime prior to the occurrence of the activity. Crime remains an indisputable fact of life for many members of modern society (Lab, 2004:1). Lab (2004:8) continues to state that fear of crime creates victims in which people experience daily inactivity and anxiety. To minimise this anxiety, ordinary citizens within communities have formulated the neighbourhood watch activities.

McLaughlin and Muncie (2001:319) describe that neighbourhood watch schemes in the United Kingdom have two possible strategies. The first assumes that increased surveillance will deter criminals by encouraging citizens to be the eyes and ears of the police. Secondly, the scheme creates social cohesion by increasing contact between neighbours which could lead to greater trust between citizens and a consequent reduction in the fear of crime (McLaughlin & Muncie, 2001:319). Lab (2004:66) confirms that, by stating that neighbourhood crime prevention has an impact on crime activities and leads to social cohesion. Surrounding neighbours are willing to assist when crime is committed. Stevens (2003:71) states that it is easy to confuse the concept of neighbourhood with a community and describes a neighbourhood as geographically defined with identifiable boundaries. A community, according to Stevens (2003:72), is a place that geography cannot define because a community is more a state of mind. Stevens further argues (2003:73) that even with all the characteristics present in a community, there is no guarantee that the community will be amenable to organised community policing activities. This is valuable to contribute to a CPGR crime prevention strategy. The reserve takes on the characteristics discussed and forms part of the community.

The community-policing unity of the group will determine the productivity. Simonsen (1998:86) describes community crime prevention as neighbourhood watch programmes, community patrols by volunteers and even campaigns to improve service delivery. These groups should be cognizant of real and perceived levels of crime and should be ready to combat crime in all aspects (Lab, 2004:17). A major aim of a security countermeasure programme should be crime displacement. Various authors list forms of displacement (Paulsen & Robinson, 2004:137; Lab, 2004:89; McLaughlin & Muncie, 2001:333) as:

- Geographical displacement;
- Temporal displacement;
- Target displacement;
- Tactical displacement; and
- Crime type displacement

This means that the key objective of the crime prevention strategy is to push the crime

aimed at the game reserve away from the area. The strategies are mostly defined as crime detection, crime reduction and crime deterrence (McLaughlin & Muncie, 2001:333). A crime prevention strategy could include physical design of property, neighbourhood watch, public education and community upliftment (Lab, 2004:25). Ortmeier (2013:173) discusses the importance of crime prevention through environmental design (CPTED) which is a method of using the environment, building and community design to prevent crime. The environment includes people, physical and social surroundings. The concept behind CPTED is to create an alternative strategy to target hardening ideologies of buildings and land use design to prevent crime occurring. However, a CPGR does not have the ability to recreate landforms, typography changes or natural barriers to assist in crime prevention.

Barr and Pease (1990:282) state that a crime displaced is a crime prevented. Barr and Pease (1990:311-313) argue that crime displacement can occur if society acts. CPGRs need the assistance of communities to prevent, detect and report crime (Minnaar, 2011:85). McSkimming and Berg (2008:236) state that little information exists about the motivation of citizens who report wildlife poachers. In the research they conducted around Pennsylvania (USA), McSkimming and Berg (2008) found some success with the "*Turn in a Poacher"* programme. Although the study focused on the poaching of fish, they found that such a programme is seen in a positive manner by the community who participated in their research however the effectiveness of the programme has not yet been demonstrated. This advocates further research to determine if communities around CPGRs would partake in such programmes. McSkimming and Berg (2008:240) recommend that "*Turn in a Poacher*" programmes be educational and promoted at schools and outdoor exhibitions.

4.3.1 The need for corporate social responsibility in a security programme

In recent years, more emphasis has been placed on the corporate social responsibility of an organisation. Van der Merwe and Wocke (2006:2) define corporate social responsibility as a commitment to improve the well-being of the community through business practises and contributions of corporate resources. The importance of corporate social responsibility is included in this research study with the belief that the community could serve as a buffer to crime if the game reserve contributes positively to the community through community developments and opportunities such as

employment (Minnaar & Herbig, 2018:161). Lunstrum (2017:142) says that serving communities could prevent poaching and create sustainable conservation: “Even members of the South African National Parks (SANParks) militarised anti-poaching taskforce have begun to recognise this dynamic, which has spurred a recent commitment to increased community engagement”.

Perry and Potgieter (2013:108) discuss the importance of effective policing when dealing with tourism. They mention that Egypt has developed special tourist police to safeguard tourists in certain high-risk areas. This would be impractical when dealing with game reserves as tourists are, in some areas, far from a city or a town.

Rural police stations have challenges due to high levels of poverty, unemployment and the vastness of the area which creates inadequate responses from the SAPS (SAPS, 2019:18). Perry and Potgieter (2013) further state that research on crime and tourism indicates crime and violence are developmental issues linked to poverty. This necessitates long-term strategies to improve the social challenges of the country. The motivation is demonstrated by Warchol and Johnson (2009) who found a limited participation by game reserve and park experts in developing a mutual beneficial relationship with local communities that led to the game reserves being victims of bush-meat poaching.

It is crucial that the risk practitioner understands the importance of social responsibility and sustainable development in the tourism sphere. Eco-tourism offers benefits to local communities, conservation, development and education (Kiper, 2013:782). Eco-tourism mostly incorporates activities in nature and the sustainable programme should complement this (Kiper, 2013:773). The security countermeasure programme must complement the entire experience of the tourist. The security risk manager could play an important role in advising the CPGR on activities involving risk outside the game reserve such as cultural visits within local communities.

4.4 OTHER ROLE PLAYERS CONTRIBUTING TO A SECURITY RISK MANAGEMENT PROGRAMME

Douglas and Alie (2014:271) state that the relationship between wildlife, social conflict and security is inadequately discussed in conservation literature. Crime, such as

poaching, contributes to the social conflict as wildlife crimes cause social unrest (Douglas & Alie, 2014:271) and this is intensified by a lack of economic opportunities. Economic growth and crime prevention policies are under the control of national and provincial governments and their contribution is needed (SAPS, 2019:44). Douglas and Alie (2014:273) state that the improvement of the poacher's equipment necessitates the increase in efforts of governments and non-government organisations to reduce crime.

4.4.1 Government

Rogerson (2007:370) emphasises the role of national governments in tourism development through policy frameworks that ensure economic growth and environmental sustainability. Rogerson (2007:370) states that the World Bank highlights that a lack of key policy issues, such as the absence of tourism sector strategies, the lack of skills development, shortcomings in tourism services and inadequate tourism information systems can lead to issues in a country's development and poverty mitigation. With the numbers of tourists visiting SA (vide section 3.2) it is perceived that wildlife can contribute positively to the economic development and conservation when well-managed (Douglas & Alie, 2014:274).

Government needs to contribute more to protecting the tourism industry and current conservation efforts. CPGRs are not protected by special legislation in South Africa. Non-violent crimes, such as theft, damage to property and trespassing would not receive special attention from police on a CPGR. CPGRs are often far from cities or towns and the crime priority would be determined by the SAPS (SAPS, 2019:20). South African game reserves face additional threats of poaching other than just rhino and elephant poaching alone. Abalone and cycad poaching are also threatening the very existence of these species (Rayner & Pires, 2016:14; Phakathi, 2018). This motivates the return of green courts in SA which were commissioned to combat these crimes (Gosling, 2006) and to prosecute these perpetrators. All environmental crimes committed would be addressed by these specialised courts. The Minister of Agriculture, Forestry and Fisheries, Minister Senzeni Zokwana, is calling for the reopening of environmental courts (Phakathi, 2018). Green courts were established in 2003 and had a conviction rate of 85% in 2005 (Phakathi, 2018; Gosling, 2006). South Africa has 38 species of cycads of which more than 25 are threatened with extinction.

From the four-cycad species classified as Extinct in the Wild, three were from SA (Rayner & Pires, 2016). This is important for a CPGR as some GR are specifically affected by cycad poaching and their security countermeasures will vary in their approach. Walters and Westerhuis (2013:279) state that “environmental issues continue to capture international headlines and remain a subject of intense intellectual, political and public debate. As a result, environmental law is widely recognised as the fastest growing area of international jurisprudence”.

Walters and Westerhuis (2013) continue to delineate the success of environmental courts in New South Wales (Australia) since 1979, named the New South Wales Land and Environment Court. In Cameroon, Tamasang and Tchoffo (2018) identify the need to create specialised environmental courts therefore this need is motivated internationally.

Cohen (2017:104) states that politicians should negotiate habitat preservation as much as they discuss trade and national security. Irving (2018:112) recommends that wilderness areas be integrated into protected areas in South Australia to achieve improved land protection. Irving (2018:112) states that management guidelines are often separate in the minds of policymakers however the Australian government has achieved some success in establishing protected areas. This indicates that a willing government can contribute to ensuring the safety and security of game reserves in SA.

Cohen (2017:112) states that people in democratic developed countries strive to influence public policies on a range of issues such as education, land use and environmental protection. Globally, there is a desire to influence governmental control over environmental management. The support of the South African government to ensure a protected environment, inclusive of all fauna and flora, is now more essential than ever. Perry and Potgieter (2013:110) state the challenge for the tourism industry and safety and security sectors is for government to address crime in a manner to encourage tourists to visit SA. Perry and Potgieter (2013:110) note that the most effective strategy is to ensure crime incidents are dealt with constructively. South Africa is currently experiencing a high unemployment rate of 29.1% (Omarjee, 2019) however agriculture, eco-tourism and culture tourism are creating employment opportunities (SAPS, 2019:12) and the contribution government can make to this

opportunity is crucial.

4.4.2 Non-government organisations

Non-governmental organisations (NGOs) play an important role in assisting CPGRs with security equipment, training and other needs. With a simple Google search “NGO’s for rhino”, a number of NGOs that support anti-poaching projects were identified. Bewick (2013:21) states many anti-poaching units, especially provincial units, are underfunded and lack equipment to be effective whereas private security anti-poaching units are well trained, equipped and organised due to financial superiority through contract agreements with game reserves and rhino owners. On the contrary, Minnaar and Herbig (2018:161) state rhino poaching is a costly operation and many smaller private owners are forced to sell their rhino populations because of their inability to afford security measures. Privately owned reserves with rhino populations desperately require funding irrespective of whether it is government, charity or NGO funding (Minnaar & Herbig, 2018:161).

Different NGOs have the same objective which is to support anti-poaching units that specifically protect rhino and elephant populations. Barichievy et al. (2017:554) state that international institutions have recognised the global security threat towards the natural heritage and therefore an increase of funds for the use of combating wildlife crime has occurred with millions of dollars that have been donated worldwide over the years. Barichievy et al. (2017:555) state that it remains a challenge to realistically assess and quantify the effectiveness or the efficiency of armed rangers. The authors recommend that more data collection and analysis should be done in order to determine the effectiveness of a field ranger presence. The SRM therefore needs to have this knowledge to apply it to the security risk management programme in order to achieve maximum results in the anti-poaching effort and to coordinate such efforts with NGOs for support to the CPGR.

Further studies would be essential to determine if there are such needs especially for the game reserves that cannot afford the services of private security and how NGOs are supporting such properties. NGOs also support the anti-poaching efforts of provincial game reserves and therefore it could cause stress on the funds available to support smaller CPGRs.

4.5 THE WAY FORWARD FOR SECURITY PROGRAMMES FOR CPGRs

According to Fischer and Green (1992:462), the future of security companies is positive. The private security industry is growing and there is potential for managers who educate themselves and acquire the necessary skills to establish themselves in the industry. Ortmeier (2013:331) reinforces this stating that security personnel at all levels should acquire new and more sophisticated skills to compete and demonstrate their competence to prevent losses in the future. This could only be achieved through education, training and experience in new loss prevention methods and processes (Ortmeier, 2013:331). CPGRs can invest in training programmes and use them to develop a person who fits the profile to perform security duties.

4.5.1 The use of security awareness programmes

An important tool for a security programme is the use of security awareness programmes. Fay (2011:390) states that an awareness programme can influence the behaviours of employees through an energetic programme. This creates the assumption that a CPGR that does not have a well-designed awareness programme, is losing the crime prevention battle from within. Every staff member can contribute positively to the overall security programme of the CPGR and this could lead to a positive work place culture.

A proper programme is supported and respected by all employees once they are convinced that security has a value to them and to the company (Fay, 2011:395). However, an awareness programme should not be limited to be within the game reserve only but should be expanded to the local community as part of the crime prevention strategy (vide section 4.3). The community, when treated correctly, can be a good source of information (Minnaar, 2011:90). According to the Gottfredson and Hirschi's general theory of crime, one theory states that the behaviour of people who commit crime manifests in their childhood (Pratt & Cullen, 2000:932). This enhances the motivation to conduct security awareness programmes within schools as well.

4.5.2 Game reserve security and conservation

Cousins, Sadler and Evans (2008:2) state that financing conservation in many provinces has become a financial constraint to state budgets which result in a

diminishing support for park management. Cousins et al. (2008:2) advise that purchasing land for conservation is no longer a viable option as land is targeted to be redistributed to the previously disadvantaged South Africans. Cousins et al. (2008:2) cite Goodman stating that the total land area covered by statutory protected areas in SA is about 5% and is too small to adequately protect the biodiversity across all habitat types. This accentuates the importance of game reserves' existence to ensure the protection of biodiversity of fauna and flora.

CPGRs may face the same risks nevertheless they will apply different strategies to minimise their risks. Van Brunschot and Kennedy (2008:166) describe a Risk Balance Model that can be applied holistically to all CPGRs as a guide to developing a risk management model. The model basically has three steps, namely, preparedness, response and prevention.

The researcher finds it alarming that game reserves must prepare for Green Wars that are defined by Büscher and Fletcher (2018:108) as physical violence to defend non-human species and ecosystems. Büscher and Fletcher (2018:107) state that, as debates about the future of conservation policies are ongoing, so is the practice of conservation under increasing pressures from wildlife crime. Büscher and Fletcher (2018:105) quote Niall McCann from National Park Rescue stating: "The extinction of elephants and rhino and of untold other species is almost unconscionable, and yet, as poaching levels remain so devastatingly high, it is becoming a more realistic prospect as every hour goes by".

The study of Büscher and Fletcher (2018) indicates that more people and organisations believe violent measures are necessary in order to prevent poaching. This is evident in SA as the South African National Defence Force (SANDF) has been deployed in the Kruger National Park in a conservation capacity (Lunstrum, 2017:136). Lunstrum (2017:136) states that militarised conservation is far more lethal than any other form of conservation-related violence.

Lunstrum's study (2017) focused on how the internet has become an important tool to feed conservation violence online. A comparison could be made with Botswana where the Botswana Defence Force (BDF) has been used since the late 1980s to support anti-poaching operations (Mogomotsi & Madigele, 2017:54). According to Mogomotsi

and Madigele (2017:51), the BDF has adapted a “shoot to kill” policy and is supported by NGOs. However, the long-term success of this strategy is debatable. Mogomotsi and Madigele (2017:54) state that a similar policy, which was implemented in Zimbabwe around the same period, helped their elephant population to increase. This policy is not implemented in South Africa. Büscher and Fletcher (2018:111) conclude that this could be the start of a broader search to debate the relationship between conservation and security. South Africa owns the largest population of rhinos worldwide and has therefore become a poaching hotspot (Mogomotsi & Madigele, 2017:56). Security risk management contributions in this regard are paramount for the protection of the fauna and flora on game reserves for future generations.

Ultimately, funding will remain the biggest challenge to any security risk countermeasure programme of a CPGR. The question is how funding would be sourced and implemented. Balmford, Beresford, Green, Naidoo, Walpole and Manica (2009:4) and Naidoo et al. (2016:7) believe that nature-based tourism produces funds that are beneficial to the community and provide a strong incentive for protecting these sites. Lubbe, Du Preez, Douglas and Fairer-Wessels (2019:9) add that a reduction in tourism will result in less employment opportunities, greater social inequalities and an escalated cost in eco-tourism activities and, as a result, the tourist experience may be influenced by poaching or anti-poaching activities.

The willingness for the organisation to invest capital will determine the tolerance or threshold of risk impacting the CPGR. With advancement in the field of technology, various security aids are being developed worldwide (vide section 3.4.7) and more systems are being integrated to complement security programmes. CPGRs do not always have the practical means to implement traditional security aids, however further investigation into this regard must not be neglected.

4.6 CONCLUSION

The factors in a security risk countermeasure programme are comprehensive and should include benefits to the security manager, security personnel, other game reserve staff, visitors and the local community for the programme to succeed.

This chapter evaluated the human factor and its importance within the security

countermeasure programme for a CPGR. Critical factors that contribute to a more secure programme were discussed and identified as, inter alia, supervision, vetting, training and the gathering of intelligence. The valuable contribution a crime prevention strategy makes toward the security risk management programme was discussed. The focus of crime prevention is to displace crime from the area of concern.

Role players, such as the government and NGOs, were identified and the contributions they can make towards a CPGR security programme were discussed. A need to uplift neighbouring communities of a CPGR was established through the discussion of corporate social responsibility of the organisation within this chapter. Importantly, the future of a CPGR needs to be prioritised through security awareness programmes and conservation efforts.

CHAPTER 5
ANALYSIS AND INTERPRETATION OF DATA

5.1 INTRODUCTION

In this chapter, the data collected during fieldwork is analysed and interpreted by the researcher to produce findings which will provide the information to verify the research study against the literature review (Fouché & Delport, 2011:76).

Twenty-two properties took part in this research study and 30 participants were interviewed (vide section 5.3). Five pairs (10 individuals in total) were interviewed together upon their request. The opinions and answers of the pairs were recorded individually during the interview stage to ensure validity and reliability of the data collected.

When directly referring to a participant's response, the participant's number which was allocated to the individual during the data analysis process will be used and is indicated in bold, for example, **P1**. This is to ensure their anonymity is maintained and to indicate the response provided by the participant verbatim. The raw data received were reduced from the transcriptions into themes that are presented and explained below.

This chapter is divided into different sections as deduced from the themes. Where necessary, analysis, interpretations and findings are substantiated by literature and supported by participant's responses.

5.2 ONSITE CHECKLIST FINDINGS AND INTERPRETATION

Gallagher (2012) states that checklists assist a researcher in performing complex tasks consistently and correctly. Furthermore, they could be used to discuss key points of the research (Gallagher, 2012). During the site visits, an onsite checklist was completed with a participant at each property. The same checklist was completed at all properties and visibly verified by the researcher where it was possible, for example, at the access gates. A total of 19 questions were included in the checklists. The main purpose of the checklist was to determine the property's security measures implemented. The checklist respondents were required to provide a "yes" or "no" answer for each item. The responses of all the properties are summarised and

indicated below:

Table 3: Onsite checklist

	MEASURE	Frequency out of 22	
		Yes	No
1	Security Plan for the Game Reserve	17	5
2	Written policy document for game reserve security	12	10
3	Operational instructions on procedures	19	3
4	Any security measures in place at this game reserve	22	0
5	Access controls in place for all external entry points	19	3
6	Controlled access procedures in place for other staff	19	3
7	Controlled access procedures in place for visitors	20	2
8	Controlled access procedures in place for external maintenance personnel (contracted)	19	3
9	Is there a perimeter fence/barricade around the game reserve?	22	0
10	Is the perimeter fence electrified?	16	6
11	Is an intruder alarm system installed on perimeter fence?	3	19
12	Is the intruder alarm system linked to a control room?	2	20
13	Is there a CCTV surveillance system installed along perimeter fence?	1	21
14	Is the CCTV surveillance system linked to a control room?	2	20

15	Are there regular guard patrols of the perimeter fence?	20	2
16	Guarding services on the game reserve?	14	8
17	Guards at every entry point to the game reserve?	10	12
18	Are any of the guards armed?	8	14
19	Any other poaching-prevention security measures in place?	14	8

The above checklist establishes a baseline of analysis for the research. With the lack of scientific information specifically related to the basic security requirements of a CPGR, the researcher needed to identify current security measures. Security programmes will normally have a written plan or policy to guide the risk owner and other personnel. Most (17 out of 22) properties had such a plan and some (12 out of 22) had a written security policy. This study intended to establish if such a plan exists and therefore an assessment of the quality of the security plan was not required. Written security plans vary depending on the business model of the CPGR. Standard operating procedures (SOPs) contribute to the success of a security plan. The SOPs guide security personnel with their daily activities and methods of performing tasks. Nineteen (19) out of 22 properties indicated they have SOPs.

The aim of the study (vide section 1.4.1) was to identify, analyse and scrutinise security measures. All the 22 properties used in the study indicated that they have security measures in place on the game reserve, such as a perimeter fence (22 out of 22) of which 16 out of 22 are electrified and 14 have guarding services on the reserve. The application of physical security personnel appears with 20 out of 22 indicating that regular guard patrols of the perimeter fence occur. Eight out of 22 properties have armed guards.

Ten out of 22 properties have guards at every entry point. These personnel mostly perform access and egress control with 19 out of 22 properties indicating they have access control in place at external points and most (19 out of 22) have access procedures in place for staff. Twenty out of 22 have access procedures for visitors and

most (19 out of 22) have access procedures for contractors.

However, the use of security technology is poor. Only two out of 20 properties have an intruder alarm system linked to a control room, three properties have an intruder alarm system installed on the perimeter fence and only one has CCTV surveillance along the perimeter fence. Two properties have CCTV systems connected to a control room. With poaching being a major threat to game reserves, 14 out of 22 stated there are other poaching-prevention security measures in place without elaborating on the matter.

5.3 ANALYSIS AND INTERPRETATION OF ONE-ON-ONE INTERVIEWS

The schedule of interview questions is formed into themes as described in Chapter 2 (vide section 2.4.3.1 and 2.5.1.1). These themes are discussed throughout the chapter to provide clarity on the findings.

5.3.1 Section A: Demographic information

This research study focused on CPGRs within the Limpopo province and therefore all properties used in the study are located within the province. All participants were interviewed on site and were treated with equal importance regardless of their position, gender, language and the size or location of the property. The researcher received the required consent from all participants who were interviewed (vide Annexure E). The researcher ensured that participants' anonymity was maintained throughout this dissertation.

Table 4: Demographic information

Participant number	Gender	Age	Home language	Length of service at the reserve	Years in the industry	Highest qualification	Job description
P1	Male	50	Eng	22	25	Hons Degree	COO
P2	Male	37	Afr	8	19	None	Sec Manager
P3	Male	35	Afr	4	15	Course in Game farm MGMT	Game Farm Manager
P4	Male	38	Afr	11	17	Matric	General Manager
P5	Male	39	Tshonga	19	19	Std 9	Sec Manager
P6	Male	24	Eng	2	4	Hons Degree	General Manager
P7	Male	34	Eng	8	8	Nat Diploma	Operations Managers
P8	Male	44	Afr	2	25	Nat Diploma	Reserve Manager
P9	Male	48	Afr	1	7	None	Lodge Manager
P10	Male	40	Afr	5	16	None	General manager
P11	Male	45	Afr	2	20	Degree	Reserve Manager
P12	Male	49	Afr	12	14	Degree	Assistant ecologist
P13	Female	35	Afr	10	4	Degree	Finance Director
P14	Male	57	Afr	3	30	Nat Diploma	Security Manager

P15	Male	34	Afr	4	10	Hons Degree	Farm Manager
P16	Male	50	Afr	3	16	Nat Diploma	General Manager
P17	Male	46	Afr	4	20	None	General Manager
P18	Male	50	Eng	2	30	Nat Diploma	General Manager
P19	Male	60	Afr	16	16	Matric	Asset Manager
P20	Male	25	Afr	3	4	Diploma	Security manager
P21	Male	37	Afr	7	13	M Degree	Warden
P22	Female	33	Afr	6.5	6.5	Degree	Relief general manager
P23	Male	54	Eng	2.5	25	Guiding Qualification	Warden
P24	Female	36	Eng	2.5	16	Degree	Sales Manager
P25	Male	46	Afr	6.5	23	None	Farm Manager
P26	Male	42	Afr	2	21	Degree	Hospitality manager
P27	Male	19	Afr	<1	<1	Matric	Farm Manager
P28	Female	53	Eng	26	30	Degree	General manager (Owner)
P29	Female	33	Dutch	5.5	5.5	M degree	General manager
P30	Male	37	Afr	10	18	Degree	General Manager

Of the 30 participants that were interviewed, five are females and 25 are males. The substantial difference in participants' gender is a result of the occupation. The target sample was security or reserve managers and, as indicated by the table (Table 4), these positions are mostly filled by males.

The dominant home language of 21 out of 30 of the participants is Afrikaans and seven out of 30 participants speak English. Only two other participants had another language as first language. Qualifications post matric were measured. Thirteen (13) participants had a degree or higher and six had a national diploma. Nine (9) out of 30 of the participants did not have any formal qualifications that indicates a weakness in the industry as some participants may not apply the security measures on game reserves as literature prescribes.

The age groups varied from the youngest being 19 years to the oldest being over 50 years. Most of the participants (13 out of 30) were between 31 and 40 years and formed the biggest portion of interviewees. Ten out of 30 are between 40 and 50 years and a few (four out of 30) are over 51 years of age. The smallest portion of participants (three out of 30) is between the ages of 19 and 25.

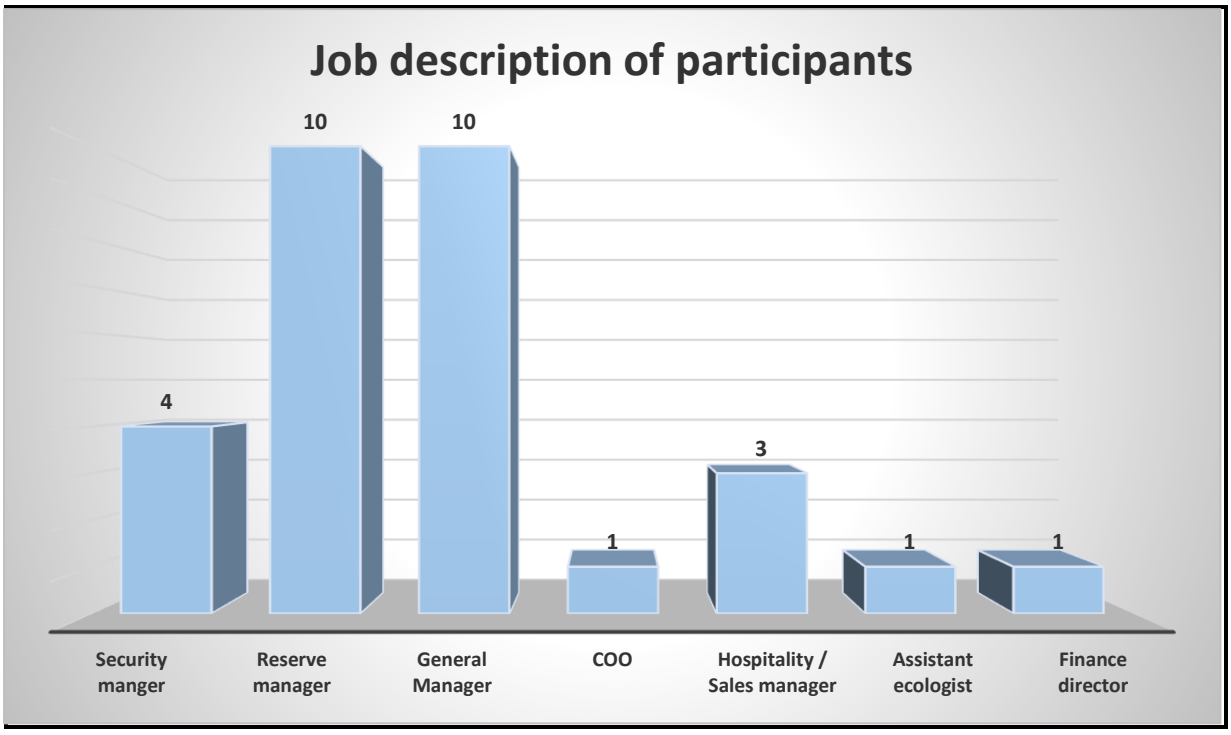
A large number of participants (17 out of 30) indicated that they were employed at the CPGR for less than five years. This concern indicates that reserves would not generate institutional memory (the ability to grow experience by an individual to the particular reserve) or preserve the knowledge of participants. Some (8 out of 30) have worked at the particular properties between six and 10 years. A few participants (four out of 30) for more than 11 years but less than 20 years and only three people for more than 21 years.

When a comparison is made with the total experience of participants and the length of service at the game reserve, the numbers indicate that participants have good overall experience working on game reserves. Most (13 out of 30) have worked within their respected fields between 11 and 20 years and some (eight out of 30) for more than 21 years. Only nine out of 30 participants have less than 10 years' experience with almost half of them having less than five years' experience within the security or hospitality industries.

5.3.1.1 Employment details

The designated target group for sampling was security and/or reserve managers on CPGRs. After the commencement of the research fieldwork, it became apparent to the researcher that the number of responses of the target group was insufficient and therefore the need to include other relevant managers emerged. Some security and/or reserve managers were unavailable for various reasons, such as operational requirements, and therefore the target group was adjusted to include other willing participants with other occupations. However, these participants were still able to provide relevant information, since much of the information the researcher sought is opinion based. Bar Chart 1 below provides a summary of the participants' job descriptions.

Bar Chart 1: Job description of participants



Only four out of 30 participants were security managers whereas most participants (10 out of 30) were general and reserve managers (10 out of 30). The job descriptions or job titles, that included farm manager, warden and reserve manager, were provided but these individuals basically have the same responsibilities and duties and were grouped together. In certain areas of Limpopo, the reserve manager carries the title of

warden. The significance of interviewing this group of participants is that they oversee security operations whether it is in-house or contracted security personnel. This also applies to the Asset manager and the Operation manager. The researcher also interviewed one Chief Operating officer (COO), three hospitality managers, including a marketing manager, one assistant ecologist (who has over 10 years game reserve experience) and one financial director (who is also a part owner).

The contribution of every participant is valued regardless of their job titles or descriptions because their experience and the information they shared is still relevant. Indeed, security and reserve managers have more daily exposure to crime or security operations however each participant's perspective is valued and included. Furthermore, an individual outside the security sphere adds new insight of how crime affects CPGRs in the Limpopo province.

5.3.1.2 Property size and location

No purposeful categorisation was made to differentiate between reserves in terms of the wildlife they contain (a Big 5 GR or not a Big 5 GR). The population focus was on commercial private game reserves and therefore the classification of a reserve that houses the "Big 5" is irrelevant in terms of the aim of this research study (vide section 1.4.1) however, the possibility remains that a "Big 5" GR security plan will differ to a non "Big 5" GR due to the wildlife it contains. The researcher included all game reserves, regardless of the type of game they contain so that smaller game reserves could be included in this study. This highlights the importance of equal inclusion and equal opportunity for properties to form part of the sample, as crime does not differentiate between properties based on size with most properties experienced some form of crime.

The sample size was 22 game reserves. Due to the sensitivity of the information and the anonymity of properties involved, no reserve name or location is published. The relevant information is the position of the CPGR in relation to a town and/or the closest SAPS police station. This is important information to asses as response times from SAPS will increase the further away a property is from a police station which increases the property's potential vulnerability to crime. Closest towns and SAPS station names will also not be used to avoid the identification of potentially weak areas.

Table 5: Property sizes and locations

Property size in ha	
<1000 ha	4
1 001 – 4 999 ha	8
5 000 ha – 9 999 ha	4
>10 000 ha	6
Distance from closest town in kilometres	
<10 km	5
11 – 20 km	2
21 – 50 km	13
51 – 75 km	2
Distance from closest SAPS station in kilometres	
<10 km	3
11 – 20 km	6
21 – 30 km	8
31 – 40 km	3
>41 km	2

5.3.1.3 Property size in hectares

A game reserve size is measured in hectares (ha). A hectare is a metric unit that is used to measure area or land and is equal to 2.47 acres or 10 000 square metres (Collins, 2012, sv “hectare”). One hectare is equal to an area of 100 x 100 metres (1ha = 100m x 100m).

The properties used in the study varied in sizes. The researcher purposefully intended to include properties of all sizes to add to the validity and reliability of the data and to generalise the research project outcomes to all CPGRs. Although properties containing “Big 5” animals are targeted for rhino poaching, the researcher’s main focus is on all general crimes affecting CPGRs.

5.3.1.4 Distance from closest town in kilometres

A significant number of properties (15 out of 22) are located beyond a 20 kilometre (km) driving distance from a town. A few (two out of 22) are between 11 and 20 km and some (five out of 22) are less than 10 km away from a town. When the researcher conducted the fieldwork, it became apparent that many game reserves were only accessible by travelling on gravel (dirt or untarred) roads. This will prolong the SAPS response time as travelling speeds are reduced for safety reasons whilst travelling on gravel roads. Gravel roads are also poorly maintained in some areas and this increases the risk of injury due to a vehicle accident. Some game reserves are situated far from a town and this results in a game reserve being vulnerable to crime and risks.

5.3.1.5 Distance from closest South African Police Services station in kilometres

Only a few (three out of 22) are within close proximity or less than 10 km from their nearest SAPS station. Some (14 out of 22) are between 11 and 30 km and a few (three out of 22) properties are between 31 and 40 km away. Only two properties are beyond 41 km which would indicate that they are the most exposed because a property beyond a certain distance becomes more vulnerable due to its remote location in relation to the town or SAPS station.

SAPS response times were not measured or tested as part of the research. However, the SAPS acknowledge a response challenge by stating that inadequate responses in rural communities constrains effective policing in these areas (SAPS, 2019:12).

5.3.2 Section B: Commercial Private Game Reserves in the tourism industry

Statistics South Africa (STATSSA) classify the types of tourist accommodation as hotels, caravans and camping sites, guest-houses and guest farms and other accommodation (STATSSA, 2019b:12). In their definition (STATSSA, 2019b:12) of other accommodation, lodges, bed and breakfast establishments, self-catering establishments and other establishments not classified elsewhere are included. CPGR business models vary and may include any of these types of accommodation which affects the security programme to be implemented. The security programme must be flexible to adapt to the business model. Tented camps are popular accommodation and traditional security measures, such as burglar bars, are not a practical solution to

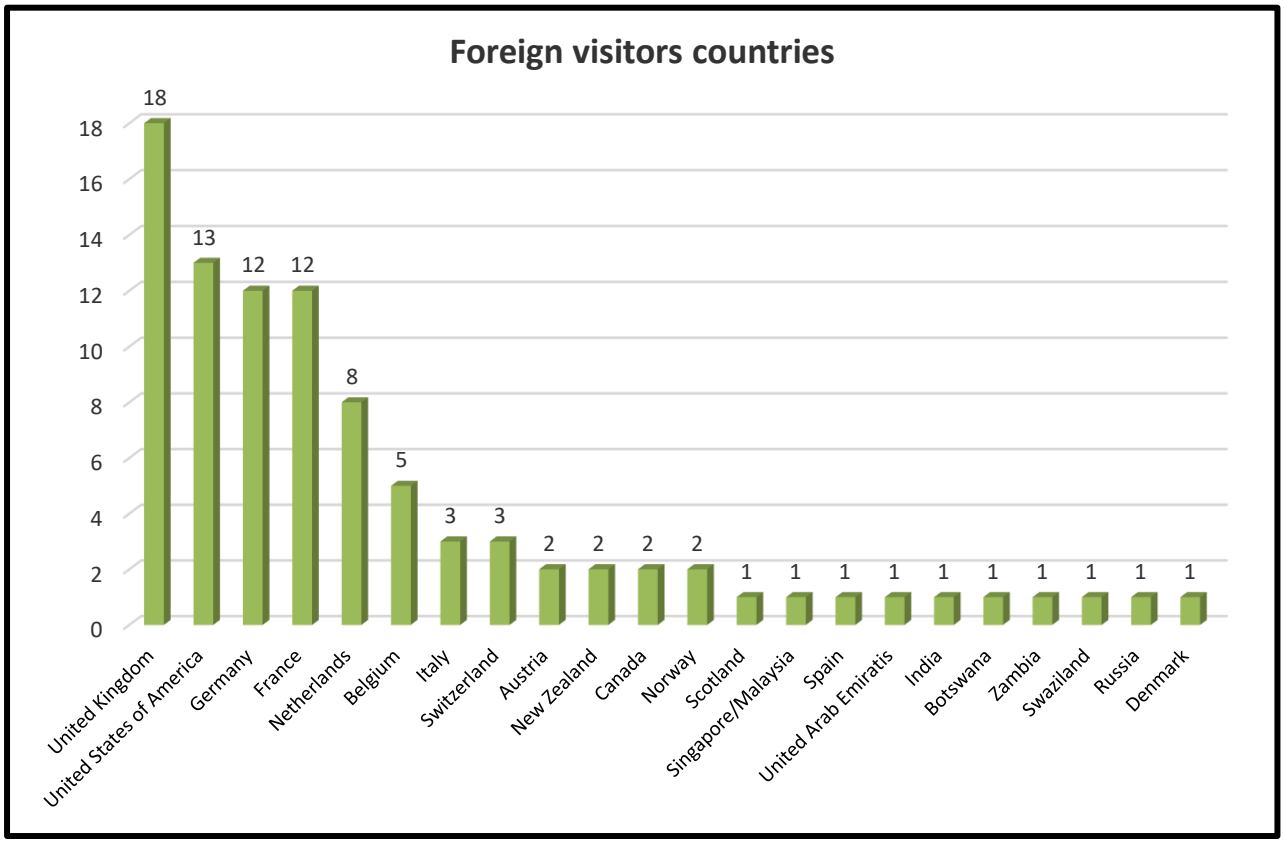
risks such as house-breaking. Consequently, in order to comprehend the significance of eco-tourism as part of the total tourism industry in South Africa (SA), a further analysis must be done into the tourist market with reference to game reserves. Game reserves have business models, such as camping, self-catering, full board lodging, resorts and breeding ranches. Thus, the researcher used the total average statistics provided by reports for analysis and interpretation.

Balmford, Beresford, Green, Naidoo, Walpole and Manica (2009:2) note the importance of nature-based tourism as one of the fastest growing sectors of the world's largest industry and this contributes to the justification of conservation and the protection of game reserves even though, in certain areas of the world, for example, the USA, a decline is indicated. Balmford et al. (2009:2) state that nature-based tourism (eco-tourism) has the potential to generate funds for conservation and link people with the environment. Kiper (2013:773) adds that eco-tourism has the potential to uplift a local community and Ester (2003:203) believes that international tourism is a source of employment and also a stimulus for a country's economy through its dependence on agricultural products and other materials. Security through tourism has the potential to increase work opportunities, not just in Limpopo but nationally as SA suffers with the highest unemployment level in 11 years of 29.1% (Omarjee, 2019). CPGRs do not only provide direct employment but also create indirect employment through, for example, farming and the supply of other raw materials and services. The value of using and applying security measures to protect CPGRs is therefore established.

5.3.2.1 Majority countries of international tourists

In Chapter 3 (vide section 3.2), the international markets are indicated which are vital in supporting the eco-tourism industry. To analyse the findings, the name of each country was assigned one point when mentioned by the interviewee and therefore the score reflects against the total of 22.

Bar Chart 2: Foreign visitor countries



Bar Chart 2 indicates the distribution of the countries mostly visiting CPGRs within Limpopo, with the United Kingdom (UK) responsible for the most (18 out of 22) visitors followed by the United States of America (13 out of 22). This confirms visitor number ratios as per Chapter 3 (section 3.2) indicating the value of these markets and the importance of providing them with adequate security to protect them from harm.

5.3.2.2 The number of visitors per day requiring security

The accommodation available is an estimate of the potential number of tourists per night indicating the number of visitors exposed to potential crime on CPGRs. One game reserve indicated during the interview that it does not have a commercial lodge and uses a different business model to those included in the sample. The number of bed nights of this specific reserve would influence the number of bed nights available negatively and therefore it is excluded from the total in this section, however, the staff employed and other applicable reserve information is included in other sections of this chapter.

Two thousand visitors per night are allowed to stay on the reserves analysed for this study. This number could be influenced (upwards) by private houses/lodges on the same property however these were excluded from the sample because they are private and not commercial accommodation. The potential numbers of visitors per night with an average of 30 days per month means that the 21 CPGRs in this study have an estimated 60 000 (2 000 x 30) visitors per month. This puts pressure on the security industry to ensure the safety and security of all the visitors from potential attacks and crime.

5.3.2.3 Tourism as an employment opportunity

CPGR staff can be divided into three major groups for the purpose of the study. These groups are indicated as security staff (where applicable), reserve staff and hospitality staff. Each group plays an important role in providing a specific service to visitors, although the hospitality staff members traditionally have more interaction with visitors. These employee totals are combined in order to indicate the total number of people employed who are dependent on tourism.

On the 22 properties, there are approximately 1 929 people employed in the hospitality section, 385 in the reserve section and approximately 350 security staff members. This gives a total estimated 2 664 employment opportunities. Tourism also produces an estimated number of 1.5 million indirect jobs or 9.2% of the SA employment economy when linked to the total supply chain value (Saunders, 2019). The tourist market stimulates local industries, such as shops, fuel garages, clothing stores, curio shops and restaurants, among others, who are all connected to the tourism market and receive some form of income from it. Furthermore, providing security to these markets indicates the importance of security services.

However, the value of this can only be acknowledged if the job opportunities are uplifting and benefiting the local communities. Sims-Castley, Kerley, Geach and Langholz (2005:10) explain that employees of game reserves receive benefits such as accommodation, food and training and that additional benefits include unemployment insurance, pension, group life insurance, medical aid and uniforms which would otherwise not be available to employees in other industries.

5.3.2.3.1 Hospitality staff

The data indicated that 12 properties source their employees from local communities. One participant indicated that they do not employ from local areas, and nine indicated they source hospitality staff from both community and non-community-based people. This is due to specialised positions, such as chefs, nature guides and other specific skills a position requires.

5.3.2.3.2 Reserve staff

Properties indicated that 14 out of 22 sources reserve staff members from local communities, three do not and five source from both community and non-community members. Again, this could be due to specific skills a post requires thus this allows reserves to initiate partnerships with local communities to develop these skills.

5.3.2.3.3 Security staff

The use of security staff by CPGRs creates an estimated 315 job opportunities from the properties analysed. Only 17 properties make use of security personnel services with four out of 17 employing from local and non-local communities, most (eight out of 17) employ from the local community, only a few (four out of 17) properties indicated they do not employ from local communities and only one respondent indicated he/she does not know.

Various reasons were provided by employers for not using local communities as a source of employment. These include that security officials who live within the community could be exposed to conflict or danger. Criminals also live within the community and some employers feel that security personnel could become vulnerable to bribes and potentially sell information.

5.3.2.4 Occupancy rates and visitor breakdown

The researcher calculated the average occupancy rate for the combined 22 properties as 52% with the percentages provided by the participants. The lowest being 8% and the highest 90%. It is important to differentiate between international and domestic markets, as some properties only target international markets and others target domestic markets. The average percentage of international and domestic visitors is

61% and 39% respectively. The high percentage of foreign visitors underlines the importance of a proper security plan to safeguard these visitors from potential crime. Local visitors have a better understanding and perception of crime risks in SA and are more aware of crime in general whereas an international tourist is more vulnerable towards crime in a foreign country.

A few properties (three out of 22) indicated that they do not receive any domestic visitors and only two out of 22 properties indicated that they do not receive any international visitors. This could possibly influence the average visitor percentage although the visitor percentages already indicate that the international visitors are responsible for a higher market share of a CPGR.

The foreign visitor numbers surpassed 10.5 million international tourists for 2018 (Saunders, 2019) which highlights the importance of protecting these visitors from crime in SA and at a CPGR in particular. Further indications reveal the tourism market is not yielding the full potential in this category with a decline in tourism numbers. Slabbert (2019) reports a decline of 2% of tourist numbers from January to August in 2019. There are other factors influencing this poor occupancy rate as Moyo and Ziramba (2013:8) add that they include relative prices, travel costs and crime indicators which will influence tourist flows.

However, certain properties indicated that crime does not influence their business model as they have a long standing relationship with their booking agent who reassures the safety of their visitors, while others have a higher focus on the domestic market and believe that South Africans are already aware of crime and crime risks and therefore it does not influence their choice of CPGR. Through identification of the crimes aimed at CPGRs, the researcher aims to identify the security measures required to reduce the incidents a visitor may face thus safeguarding the tourist market which is beneficial to SA and to CPGRs in particular.

5.3.2.5 Visitors' experiences of incidents of crime on CPGRs in Limpopo

The researcher, with the assumption that crime causes trauma to a visitor, intended to determine if visitors experience crime whilst visiting a CPGR. Most of the participants (20 out of 30) indicated their visitors did not experience any crime during

their stay whilst 33% of participants interviewed (or 10 out of 30) indicated their visitors experienced some sort of crime during their stay. This means if 2 000 visitors are the maximum visitors per day and the average occupancy rate (of all the 21 properties combined) of 52% is calculated, it equals 1 040 visitors per day in total. Of the 30 participants 33% indicated that a visitor had experienced some form of crime during his/her stay, therefore **343 visitors are exposed to crime every day on CPGRs**. Should a visitor be affected by crime, a return visit is unlikely as participant **P4** stated: "We never heard of the visitors who experienced crime again". Social media and word of mouth could damage the reputation of the affected CPGR and also affect the entire SA tourist industry. Ishmail (2019) reports that several bad news stories, such as xenophobic violence and crime statistics, negatively affect the tourism sector.

The responses above could vary due to employment periods of a participant at a particular CPGR. The frequency may also differ as participants rely on their own experiences during employment at a particular reserve. The impact of this would be difficult to quantify according to participants. Participant **P1** for example, mentioned that an incident where a visitor experiences an incident of crime occurs maybe once a year.

5.3.2.6 Visitors express safety concerns or fear for their physical safety

Ferreira and Harmse (2000:80, 81) state that a destination's image plays a role in the visitor's choice of destination and that a negative perception of personal safety is a major threat to the tourist industry in SA. Risk and tourism are interwoven however, subjective or objective risk is related to the tourists' own experiences (Yang & Nair, 2014:323). The visitors' personal experiences, the influence of social media and word of mouth means that tourists should be prevented from experiencing crime (Ferreira & Harmse, 2000:81) as it could have a negative impact on the SA tourism industry. Yang and Nair (2014:323) believe that the risk perception of tourists might be cognitive, and the possibility exists that the tourists are not aware of potential risks or crime when travelling to a rural destination. If the security measures fail the tourists who already have a low perception of crime risks, the fear of crime would result in negative consequences for SA and CPGRs. Yusuf Abramjee, Director of Crime Stoppers SA, stated that they have received numerous enquiries from international tourists enquiring about safety in SA and wanting to cancel their travel plans (Ishmail,

2019).

Participants included other reasons for visitors' fear other than crime. Two participants included tourists' fear of animals that is a safety concern that remains the responsibility of the CPGRs. The data indicated that seven out of 30 participants knew of instances where visitors feared for their safety but most (23 out of 30) responded they did not. This is an indication that CPGRs provide a relaxed environment for their visitors as participant **P29** said "Guests express concerns of driving the dirt road but not to crime".

5.3.2.7 Crime in South Africa affects the visitor numbers

Ferreira and Harmse (2000:84) state that crime, in particular, violent crimes are a deterrent to visitors to SA. Most (25 out of 30) participants responded that crime does influence the visitor numbers to their game reserve with only five out of 30 participants believing the opposite. Participant **P8** indicated that farm murders influence local visitors and also refers to the crime and political situation as a deterrent for potential visitors. Participant **P21** said that xenophobic attacks influenced their visitors. Ferreira and Harmse (2000:84) add that, for a successful tourist industry, crime needs to be under control in SA and visitors' safety assured. Participant **P28** added: "I do not think it necessarily affects us [the business] because our agents know us, our reputation precedes South Africa's".

A risk identified with the hospitality industry and all CPGRs is reputational risk. The statement of participant **P28** illustrates that ensuring the safety of visitors will strengthen and contribute to the reputation of the business.

5.3.2.8 Presentation of crime information to visitor

Most participants (22 of 30) responded they do not provide any crime or crime awareness information or orientation to their visitors and some (eight out of 30) responded they provide this information as part of the induction pack or orientation to visitors upon check-in. This informs visitors to lock their valuables away in the safe provided but there is no significant indicator that CPGRs that provide this crime information suffer less crime.

5.3.2.9 Tourists decision-making process: visiting South Africa or a CPGR

The question aimed to establish if the tourist decision making process is known to the participants. This question would have carried more value if the researcher were able to interview tourists in order to identify if crime is a factor in the decision-making process as visitors act upon the image and perception of a destination (Ferreira & Harmse, 2000:84). The responses are indicated as follows:

Visiting South Africa

Most participants (17 out of 30) indicated that crime does form part of the visitor's decision to visit with some (11 out of 30) responding that it does not and two participants indicated that they do not know.

Visiting the CPGR

Only three out of 30 participants indicated visitors took crime into consideration upon choosing their CPGR whereas most (18 out of 30) indicated that visitors do not mention it and nine out of 30 replied they do not know. Participant **P7** stated: "To South Africa, yes, it's mentioned quite a lot have not came because of our [SA's crime] reputation. To the game reserve, I have never heard somebody say they were thinking of not coming because of security".

The significance of this is to determine if CPGRs in Limpopo experience a negative perception of crime and if those visitors may choose alternative provinces, such as Mpumalanga, as a destination of choice or an alternative country. Again, this is difficultly to verify without the direct input of visitors however participant **P30** indicted he/she has received this response from visitors: "Visiting South Africa is a big concern". It would be a substantial contribution to determine if crime affects the decision-making process of a CPGRs or is it merely image and pricing.

5.3.2.10 Understanding civil liability

Ortmeier (2013:30) explains that civil liability occurs when a person is harmed or injured through the actions or omissions to act by another within the business. This is particularly important for the security manager, security staff and the CPGR owner(s) with the use of firearms by armed guards because, under the vicarious liability

application in law, an employer can be held accountable for a crime committed by an employee during employment (Joubert, 2001:102; Ortmeier, 2013:30).

All participants had a fair understanding of civil liability and mostly referred to it as insurance should an unexpected accident occur. Only one respondent did not know the meaning of this or whether the employer has liability insurance in place. The concern is that this participant is a security manager and this directly relates to the objectives (vide section 1.4.2) of the researcher to assess the application of security risk management concepts of CPGRs in Limpopo. Furthermore, the lack of understanding the liability of his/her subordinates increases the risk of the charge of negligence for their employer if an incident would occur.

5.3.3 Section C: Security Management on game reserves

Security measures relate to people, hardware and software (Walsh, 2003:9). Hardware refers to physical and technological security measures and software refers to policies and procedures.

5.3.3.1 Security management on commercial private game reserves

The individuals responsible for the security management of the properties are represented by Security Managers (five out of 22 properties), Reserve Manager/Farm Managers (10 out of 22), General Managers (five out of 22) and the owners (two out of 22). These individuals are responsible for planning, organising, leading and controlling the security functions on their respective game reserves. Due to many similarities in duties and responsibilities of the farm and reserve managers, the researcher has grouped them together and formed a cluster (reserve manager) which forms the largest portion of responsible people (10 out of 22). Only five security managers are employed full time across the 22 properties sampled but this is outweighed by the number of reserve managers responsible for security on a CPGR. General Managers, who often have horizontal responsibilities, are indicated five times as incumbents responsible for security and owners were indicated only twice.

This directly correlates with the objectives of this study (vide section 1.4.2) of assessing the application of security risk management concepts at CPGRs. While security countermeasures can still be applied by the reserve or general manager, the

researcher remains sceptical of the lack of security risk management knowledge and its application. A true security risk management practitioner can add value to a CPGR's crime reduction strategy. Although other managers may acquire the skill of reducing and mitigating crime, they are challenged with many responsibilities and functions during a work day and that could lead to a lack of security awareness.

5.3.3.1.1 Understanding Security Risk Management

Ortmeier (2013:2) writes that as societies developed, so did the need for security to deter criminals and to provide protection for people and their property. Security management became a multifaceted occupation (Ortmeier, 2013:3) that is divided into physical, personnel and information security (Ortmeier, 2013:15). This created the need for the security risk manager to design a programme to manage the risk and security needs of an organisation (Fay, 2011:117). Such a programme should aim to identify threats and risks and develop and design risk countermeasures to reduce the associated risk(s) to within acceptable levels of the risk owner (or the business).

The researcher measured the understanding of this concept against keywords such as the identification of a threat or a risk, the introduction of measures to reduce the risk and that the risk is to be within acceptable levels. Most of the participants (22 out of 30) had a fair to good understanding and indicated that security risk management involves using measures to reduce risk. A few participants (six out of 30) had a poor understanding and two participants (not security managers) replied they do not know what it is.

P4: "To be one step ahead of any possible crime".

P6: "Steps to put in place to mitigate or reduce risk of crime happening".

P13: "To put controls in place to address the risks effectively".

P14: "To manage the identified risks to a minimum so that the impact on the nature reserve is minimal".

P5: "Identify the risk and work towards a solution of that risk".

P10: "The plans and measures you put in place to prevent the risk identified"

Security risk management is concerned with threat and risk assessments and the analysis thereof. The researcher intended to determine if security risk management is used as a management tool. Ortmeier (2013:158) describes that risk management techniques allow practitioners to anticipate and analyse risks, and therefore be able to implement strategies to reduce the risks. An assessment involves critical and objective analysis of the entire risk management programme of a game reserve in order to design risk reducing measures or security risk countermeasures (Ortmeier, 2013:161).

5.3.3.2 The core responsibilities of the security manager or manager responsible for security

This question was answered by security managers and farm/reserve/general managers who are directly responsible for security functions and operations. The respondents listed various core responsibilities. Many functions overlap and are essentially the same but also both groups indicated other core duties of a security manager.

Security managers:

The security managers indicated their major responsibilities as planning staff deployment and operations, protecting assets, employees and visitors and to control staff and visitor movements.

Farm/reserve/general managers:

These managers indicated their responsibilities as ensuring guest security, controlling and monitoring staff duties, ensuring security measures are maintained and liaising with other departments.

The findings indicate that the managers have a basic understanding of providing and maintaining security measures however their effectiveness remains questionable. The role of a security manager was established in Chapter 3 (vide section 3.4.2) to evaluate and implement a security management programme.

The core responsibility of the risk practitioner (manager of both groups) is to ensure the security programme of their respective property is functioning. This includes the management of personnel and their duties which vary from access control to perimeter

fence patrols. Furthermore, the risk practitioner is responsible for the coordination with external stakeholders, such as SAPS, and to implement corrective resolutions for security related incidents.

5.3.3.3 The security employees of CPGRs

The main functions of a security official are to detect, deter, delay, respond and report (Fay, 2011:253). The main duties of security employees at CPGRs are identified as access control (47%), patrolling (33%) and anti-poaching (30%) as reported by the respondents. Other duties include, inter alia, vehicle patrols, fence maintenance, searches, lodge security and alarm monitoring. Participant **P15** describes the duties of a security employee as: “Mainly to keep the property safe from any intruders and to minimise the risk of crime”.

The researcher observed that, in certain circumstances, reserve staff or farm workers are used to perform security duties such as access control, fence patrols and fence maintenance. There is no data indicating a farm worker is less competent to perform such duties or any other duty that is traditionally performed by a security officer, however, according to the Private Security Industry Regulation Act (Act 56 of 2001), all persons performing a security service should be registered and accredited with the Private Security Industry Regulation Authority (PSIRA).

The use of proprietary (or in-house) security staff is becoming more common and it was found that nine of 22 properties make use of proprietary security staff and one added they would add external ad hoc security personnel services when needed. Six of 22 properties make use of contract security staff of which two properties indicated their use of a shared service model. This means the security manager, and/or some other staff would directly be employed by the CPGR to oversee the duties and functions of the outsourced security service provider. Only five of the 22 properties do not use any security personnel however one property uses ad hoc security personnel services periodically depending on owner requirements.

5.3.3.4 Required qualification of security staff

The researcher observed that some participants did not respond confidently to the question of minimum qualification and PSIRA accreditation. Most (seven out of 17)

properties who make use of security personnel indicated that the minimum requirement is a PSIRA registration with two out of 17 properties specifically stating PSIRA grade E as a minimum qualification to be a gate guard. Five out of 17 properties indicated that there is no minimum required grade. Some properties deem an in-house security officer as a farm worker and therefore no need exists to be qualified or accredited with the security regulatory body. Five out of 17 properties indicated unknown.

It is imperative for the business owner is to be aware of the vicarious liability application even if the security service is out-sourced. The business owner must ensure the service provider is operating within the prescribed PSIRA legislation and security personnel are qualified and registered with PSIRA. The unknown responses could be as result of the participant not being directly involved with the security staff and therefore not be associated with the correct information.

In terms of PSIRA accreditation most (seven out of 17) properties indicated their staff is accredited. Similar to the above five out of 17 properties responded “unknown” to this question. Five out of 17 indicated “no” and one responded that only the anti-poaching unit (APU) is accredited. This, the researcher accepts, is due to the legislation of the Firearm Control Act 60 of 2000 which states that a security officer may only use a firearm if an he/she possesses a competency certificate for business purposes. Therefore, any organisation that provides a firearm to an employee to use as part of their duties must ensure the employee complies with the applicable legislations. Hence, the staff member needs to be a registered PSIRA officer and have obtained and possess a SAPS firearm competency for business purposes certificate. This means that CPGRs must decide if security personnel need to be qualified and registered especially with the use of firearms. To perform jobs, such as access control by the gate, could seem inferior compared to other CPGR functions, however, that person still adds value and contributes to the overall security programme of the reserve. Most often, the security official is the first point of contact with visitors and thus the official must make a good first impression.

In crime reduction, the gate guard or fence patroller can add value to a security plan, when treated and trained correctly. Every person is a source of intelligence and they are still able to identify suspicious activities and people.

5.3.3.5 Impact of staff shortages

An objective of the researcher (vide section 1.4.2) is to determine the effectiveness of security measures. In dealing with security staff specifically, the question of whether staff shortages expose a CPGR to crime. The response was that five out of 22 staff shortages are dealt with by a relief staff member or by staff rotation and/or redeployment. Six out of 22 participants replied that the service provider would resolve the shortage. The use of overtime was mentioned by a few (four out of 22) of the participants.

The researcher assumes that staff shortage is of low risk to the participants although it will depend on the type of security model used by a CPGR.

5.3.3.6 The use of risk assessment on CPGRs

To assess the application of security risk management concepts, a key component is to identify the use of proper security risk assessments which form part of the objectives (vide section 1.4.2) of this study. A security risk assessment (vide section 3.4.4) is a tool that could add value to any organisation to determine threats, identify shortcomings in the current security plan and identify crime countermeasures to reduce the threats identified. The responses indicated that most of the properties (14 out of 22) do not make use of formal risk assessments and only one participant responded “unknown” to the question. Only few properties (seven out of 22) make use of or apply risk assessments as part of their security strategy.

The researcher attempted to establish the frequency of these assessments. The responses varied from weekly (one participant) to monthly (one participant). This implies that the risk assessments the participants referred to are informal assessments done as part of the daily/weekly operations and this information provided allows the researcher to scrutinise the responses of the number of properties doing formal risk assessment to five out of 22 which is much less than the seven out of 22 indicated above.

The five properties indicated the frequency as follows: two participants stated they do risk assessments annually, two stated bi-annually and one participant stated they had done one more than six years before. This participant provided the researcher with an

opportunity to peruse the said assessment. It was a thorough report covering the major risk areas, however it was outdated and this specific reserve's risks have changed over time. This validates the need to conduct comprehensive security risk assessments within the CPGR environment to add value to a CPGR and thus improve the tourism industry.

5.3.3.7 Understanding threats

A threat and a risk are not the same (Fay, 2011:123) although a risk is a threat and a threat is a risk to a CPGR. Fay (2011:119) divides threats into two categories, namely, acts of nature and acts of humankind. Measured against the different threats according to Fay (2011:294) (vide section 3.4.4), responses varied with most responders associating threats with acts of humankind as the major threat. Responses received described threats as a potential danger to any animal or guest and another said crime occurring due to unemployment. One participant referred to the location of the property next to the main road as a threat. Most participants (25 out of 30) had a fair to good understanding and a few (5 out of 30) had a poor understanding or at least, had a poor response to the question.

P6: "A threat is something that directly affects what you own".

The most concerned threats by the participants are: poaching in general (18 out of 22), theft (nine out of 22), fire (four out of 22), trespassing (five out of 22), farm attacks (four out of 22) and housebreaking (three out of 22). A few participants named industrial action (two out of 22) and water security (two out of 22) as concerns. Other threats that were identified (each named only once by participants) are: threats to reputation, knowledge of security operation leaking, civil action, weak points on perimeter fence, firearm use, drought, land claims, proximity to town, robbery and horse sickness.

5.3.3.8 Understanding security risks

One of the main functions of a security risk assessment is to determine the risks (Landoll, 2006:353) to the assets of the CPGR. The researcher determined that a tourism business model of a CPGR would identify its assets as wildlife, people and infrastructure, as participant **P29** indicated: "Our security risks are aimed at our guests,

staff and animals". The most common referral was towards what could happen to guests. Responses varied from risks aimed towards assets, animals and people. Most participants (28 out of 30) referred to risks as aimed towards guests or animals. **P1:** "Anything that can influence the safety of the reserve's guests and animals". Some referred to property such as **P13**: "The risk we have is the safety of the people, staff and visitors, the safety of the property and the safety of the wildlife on our property". Some participants indicated it is something that needs to be analysed with **P19** stating: "Basically to analyse what the risks are and then operate accordingly and plan to minimise the risk, but you have to understand first what the risk is".

Security risks aimed at a CPGR vary in nature and it is essential for the risk practitioner of a CPGR to identify harmful risks. The researcher needs to identify the risk, the nature of the risk and the cause, to be able to analyse it and make relevant recommendations. Ortmeier (2013:159) states that there are three factors that would influence the risk management decision, namely, vulnerability (exposure or frequency) to risks, probability (likelihood) of a risk occurring and criticality (impact) of the risk event. Ortmeier (2013:159) adds that the cost of the security measure and the potential loss must be balanced and considered by the risk practitioner.

5.3.3.9 Crimes occurring on CPGRs

In order for a crime to be committed, certain factors must be present. See the Triangle of Crime Causation (Figure 4). Van der Westhuizen (1993:317) explains the Triangle of Crime Causation where interactions between each axis must be present in order for an individual to commit a crime. With one axis or factor missing, the crime cannot occur or the person would not be able to perpetrate the crime. Ultimately, this is what a successful security programme desires to achieve.

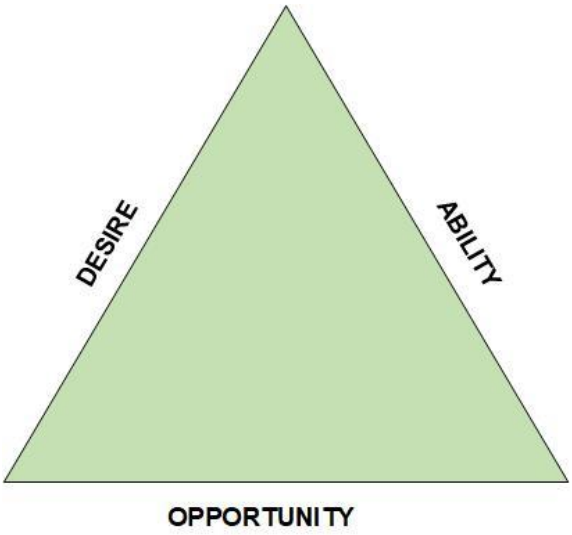
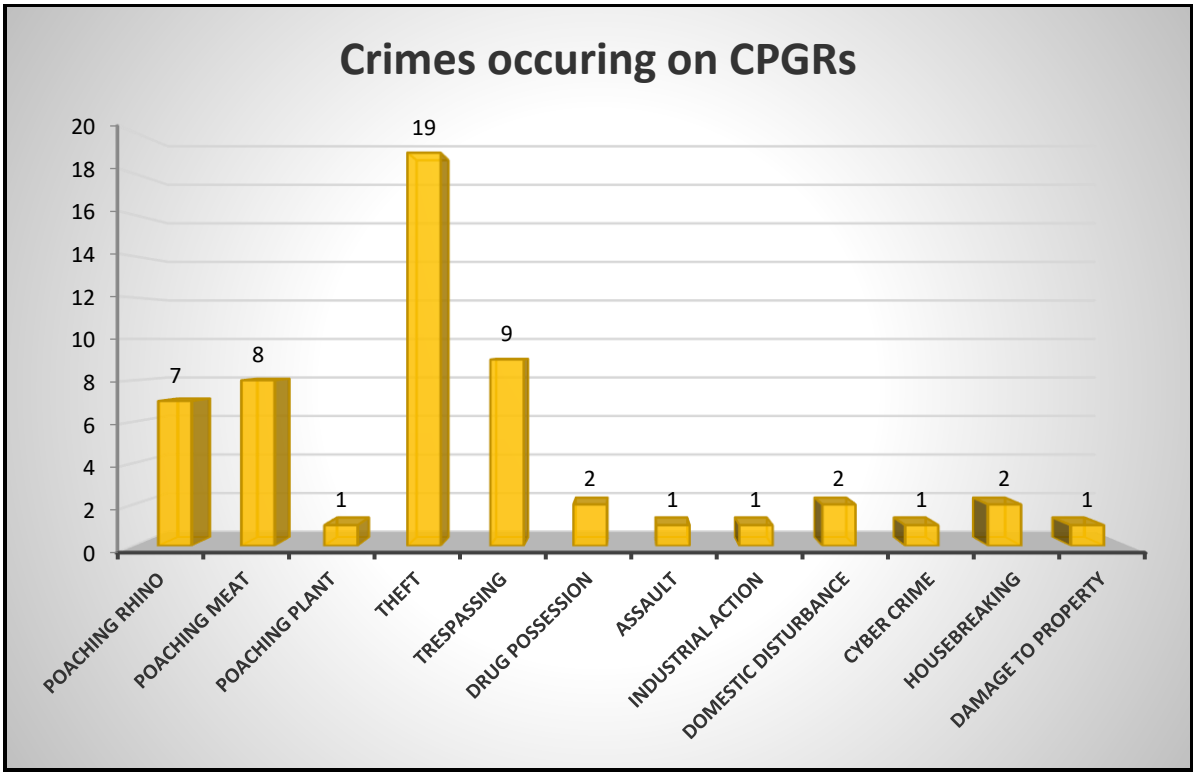


Figure 4: The Triangle of Crime Causation

Adapted from Van der Westhuizen (1993:317)

Bar Chart 3 depicts the crimes most commonly occurring on a CPGR in Limpopo. A crime was scored with one mark per property and is represented on the chart. Petty theft and serious theft are the most repeated crimes occurring on 19 of the 22 properties. Rhino poaching cannot reflect on all the properties as not all the properties that participated have these animals, therefore the researcher did not emphasise this crime separately however seven out of 22 properties indicated rhino poaching as a potential crime. Meat poaching happens often (eight out of 22) and the other crime of most concern is trespassing with nine out of 22 occurrences.

Bar Chart 3: Crimes occurring on CPGRs



5.3.3.9.1 Frequency of crime on CPGRs

The frequency or exposure of these crimes differs as much as the seriousness of these crimes. The researcher asked participants to specify the frequency of the crimes named in intervals of daily, weekly, monthly or yearly. It was difficult to determine the frequency as some crimes do not occur regularly although the seriousness of the risk remains as one crime aimed at a tourist can have a severe impact on the game reserve.

Participants indicated that rhino poaching occurs less than once a year, as one participant mentioned; “No poaching events can occur for some years and then there may be two [poaching incidents] which results in the impact increasing dramatically”. Meat poaching occurs in certain areas monthly and in others weekly with the common denominator being the properties’ proximity to a local community. Theft occurs daily, monthly and yearly. Trespassing occurs monthly with housebreaking occurring weekly to yearly. Damage to a property occurs once a year. Two domestic disturbances

occurred once a year on two different properties.

5.3.3.9.2 Probability of crime on CPGRs

All the crimes mentioned in section 5.3.3.9 are likely to happen on all properties and factors, such as size and location, will influence certain crimes and thus it is difficult to generalise. The probability was not tested by the researcher due to the assumption that all the mentioned crime risks are high in consequences when an international tourist is a victim of crime. Although the aforementioned frequencies are low, the probability remains likely and therefore the seriousness of crime affecting international visitors remains catastrophic. Participant **P30** indicated that all guests have expensive cameras, laptops, tablets and other possessions which makes a full lodge a lucrative target for robbers.

The probability for rhino poaching remains almost certain with the current national frequency (vide section 3.4.6, Table 2). Participant **P2** referring to rhino poaching stated: “It is not a matter of if but when”.

5.3.3.9.3 Impact of crime on CPGRs

The researcher attempted to determine the impact of crime within two different spheres, on visitor numbers to the CPGR and on the business. Crime can impact on a game reserve in two major ways. It can affect the visitor numbers indirectly as a result of crime occurring in SA or directly as a result of the tourists experiencing crime during their stay at a CPGR.

The issue of crime remains relevant to all CPGRs. Although the frequencies indicated by some CPGRs are low, the impact could be significant, for example, rhino poaching. If the poached animal is a pregnant female, for example, the impact will be more serious. Participant **P30** said that a fully booked lodge robbed by criminals will have a catastrophic consequence on their business. Contrary to this, one respondent replied there is no impact as incidents occur and guests do not know about it, referring to crime committed on their property.

With reference to crime impacting on visitor numbers, most participants (19 out of 30) indicated there is an impact and some (11 out of 30) indicated that there was no

impact. Inclusive of these numbers, four participants indicated crime does not affect their domestic market, however, crime does have an impact on visitor numbers to SA.

In addition to the impact of crime on a tourist, the consequence is immeasurable as one cannot determine the impact of reputational damage and quantify it in terms of value of financial loss. It can only be indicated as severe (catastrophic) as supported by participant **P29** who indicated a direct revenue loss as a result of one incident that happened to a group of tourists. The participant explained that a group of visitors from one country were robbed in SA and, as a result of this, they receive fewer tourists from this country which affected their revenue significantly. This statement clearly indicates that crime has an impact on the tourist numbers to SA. Even though this response is from one respondent, if it applies to all CPGPs, the financial loss to the country is severe as a result of crime.

In terms of assessing the impact on the business itself, the researcher found various responses which make it difficult to determine this according to the traditional impact scale. Most participants (18 out of 30) replied “yes” to whether crime affects the business with one participant who indicated that the severity is low. Five out of 30 indicated the impact in terms of cost or a financial expense and two out of 30 replied definitely. Only a few participants (five out of 30) indicated that crime has no impact on the business.

P27: “Yes, serious because I have to trust my workers with the people that are here, if I can’t trust them then I don’t know if the guests are safe.”

P25: “A tourist might re-consider coming to South Africa due to the crime”. However, participant **P26** (from the same property) stated: “Financial impact on whatever they steal because we have to replace it, but it’s not going to prevent visitors from coming”.

P23: “The effect, I reckon you probably talk about a small percentage of tourists is looking at SA as a negative destination because of the crime, and it could be bigger than what we think. If I am a naive European wanting to travel anywhere, I would probably stay away from SA if I look at the criminal murder stats in this country”.

One property pointed out they were victims of cybercrime and it had a major impact on their business, however, the same respondent replied that theft, in particular, petty

theft, had a minor to insignificant impact on the game reserve. Although not crime related, some properties did mention that political instability, in special reference to land expropriation, had an impact on their business due to a loss of clientele. Participants also mentioned that crime impacts their properties financially through losses (four out of 22), loss of income through theft (three out of 22) and financial loss due to animal poaching and that these losses may cause an increase in insurance costs.

The impact of crime is rationalised by the following participants:

P15: “I do believe it’s got an impact on the eco-tourism in the country”.

P24: “General crime in SA has an impact on the business, definitely, but I wouldn’t say any crime that happens here or has happened here in the past, that’s not in my knowledge, unless someone’s left a review on Trip-advisor saying that my stuff got stolen, which I don’t have any knowledge of, then no”.

P21: “If it happened to the client, he/she will not return and may spread the word that will prevent others from coming. The lodges are very quiet everywhere, it might be due to political instability we are facing currently”.

P20: “If the amount of visitors decreases, then the business is also going backwards”.

P18: “We work on tourism so it’s got to impact on the flow of tourists in SA, it affects everything”.

P4: “In general, not only this property. I think it has a huge impact as there has been proven lodges closing down due to crime”.

P5: “Crime is happening every day on the streets. People are being shot, hi-jacked and robbed. Obviously, it has a very big impact on the business”.

P2: “If you don’t have guests, there is no income. We rely on bed levies to run the reserve”.

5.3.3.10 Recovery of losses due to the incidents of crime

Respondents indicated that the nature and magnitude of an incident will determine the

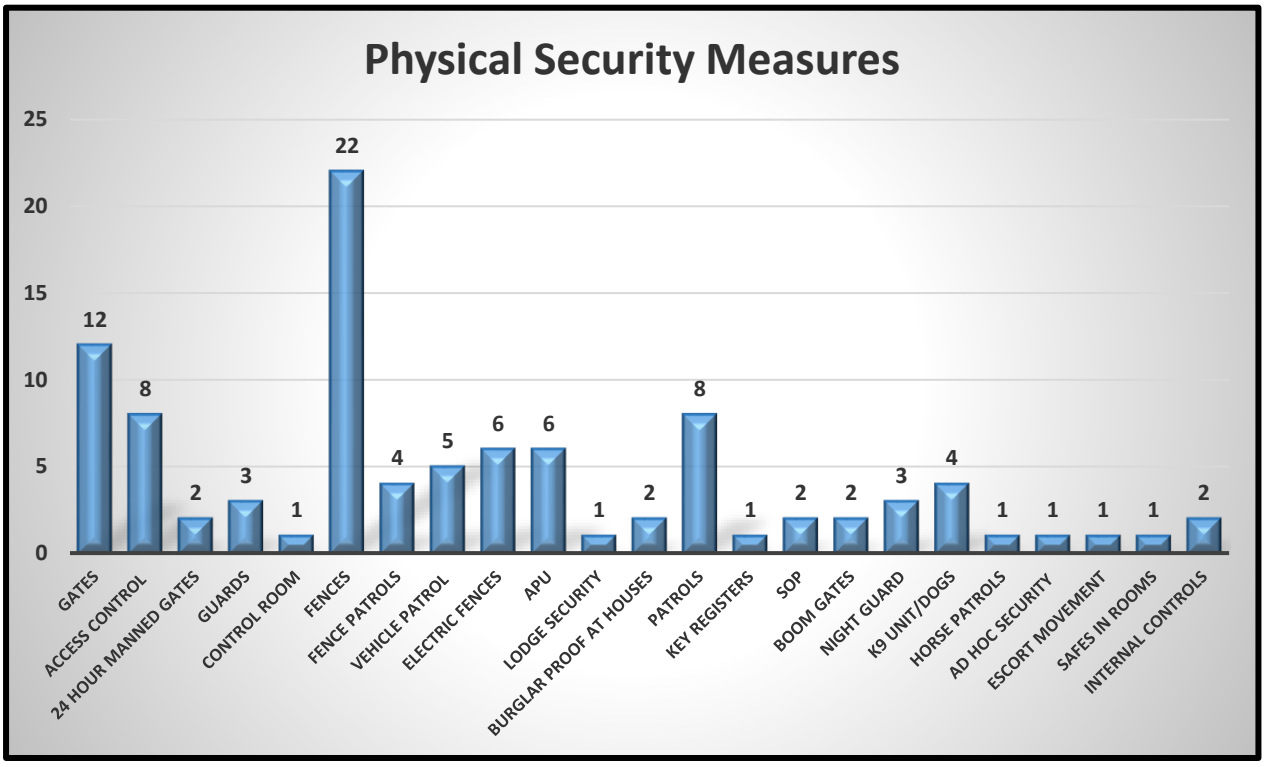
response to the recovery of losses. Participants indicated that insurance will be used if larger financial losses occur and some will accept the loss in less serious cases. One participant indicated that they replaced money stolen from guests whereas another participant stated they do not use the business insurance to recover personal losses suffered by guests. Only one participant indicated that they have never suffered a loss due to crime.

Although insurance or acceptance is the most common methods used to recover a loss, no insurance policy can protect the CPGR from reputational loss should a visitor experience a serious incident as supported by participant **P4:** “Cannot claim for reputational damage”. This is the critical element for the risk practitioner to grasp. There is no recovery of loss for reputational damage.

5.3.3.11 Physical security measures

Physical security measures are often described as elements, such as security lighting, equipment, humans and policies which form protective barriers from potential threats (Ortmeier, 2013:82). The challenges and impractical uses of conventional security applications must be noted for CPGRs.

Bar Chart 4: Physical Security Measures



Physical security measures implemented by CPGRs vary and some are fairly limited in their application. McCrie (2007:292) and Fay (2011:161) refer to the concentric protection barriers however, with the analysis of CPGR security measures, it is apparent that they do not conform to the traditional applications set out by the authors. With the remote location of reserves, the size of properties and topography, the implementation of physical security measures differ. Visitor accommodation in CPGRs cannot be compared to hotels' security standards and certain physical security measures become impractical, for example, using locks to lock tent accommodation.

Fence designs are aimed at keeping animals within the reserve rather than criminals out. A fence is designed to keep criminals out is simply too expensive and impractical in its application for most game reserves. With the vast areas covered by CPGRs, the total distance of a fence makes it vulnerable in itself. Even if an alarm system is connected, the response times would be difficult to determine as road conditions and the distance to be travelled to the alarm zone would be obstacles in response times. In some reserves, fences are only accessible by foot.

Main access gates were observed by the researcher not to be a critical security measure as the design of the gates is more for aesthetic reasons and access and egress control of vehicle movement. Some properties use automotive gates where the visitor dials the lodge by means of a keypad, instead of a physical guard controlling the gate. There is no indication that such gates are more vulnerable to criminals although a physical guard presence would be a more effective deterrent.

The most common measures were indicated as patrols of various sorts and the use of physical guards for numerous duties such as access control and anti-poaching. Physical measures are mostly determined by the financial means of the risk owner.

5.3.3.12 Technological security measures

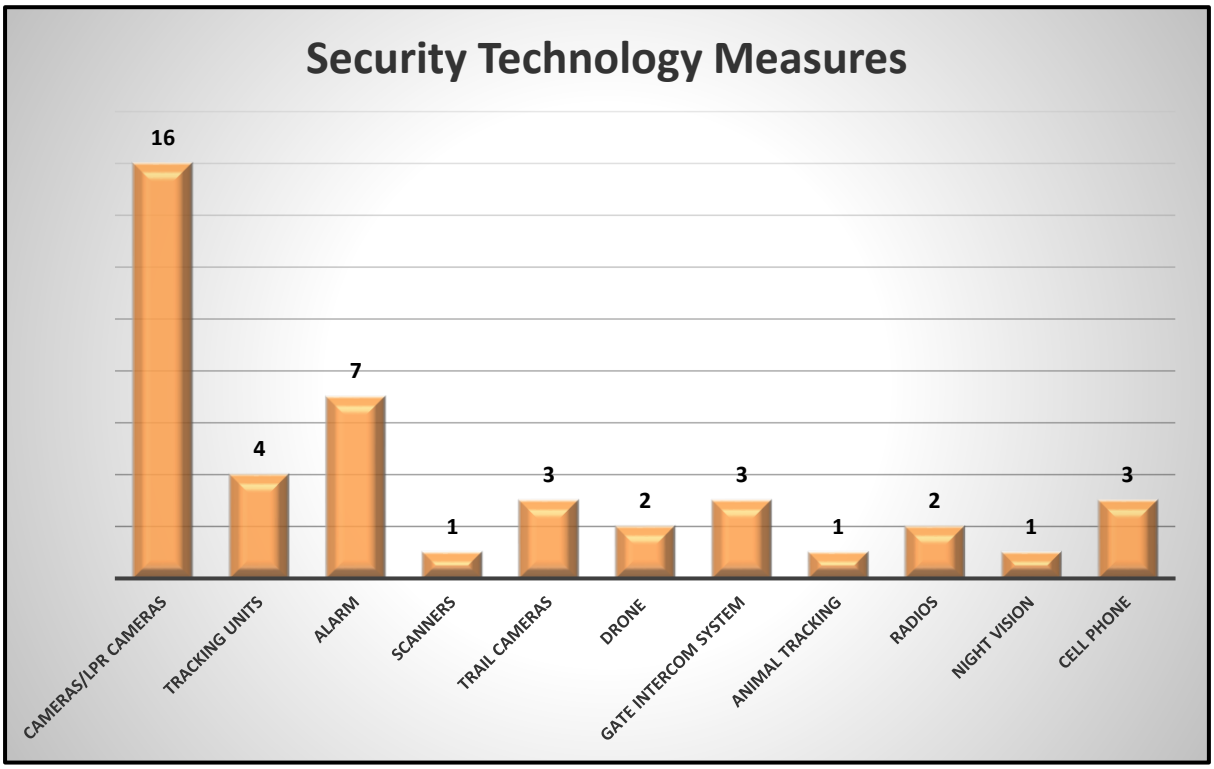
As discussed with physical security measures, certain technological security measures are not practical in their application to CPGRs. Technology, such as intruder alarms, beams, sensors or other early warning systems, are impractical on certain fence lines whereas other measures, such as tracking systems (four out of 22) are beneficial to the CPGR.

A major success observed by the researcher with the use of technological security measures by CPGRs is the use of licence plate recognition cameras which are installed in conjunction with boom gates which control access of certain secondary roads. These measures are very effective in deterring unwanted vehicle movement and participants indicated a decline in vehicle traffic on these roads since the implementation of this security measure.

Most properties (16 out of 22) indicated some use of CCTV cameras as technological security measures. Seven out of 22 indicated the use of alarms although these alarms are not used for the protection of visitors per se but for private housing and stores. Very little technological use was observed by the researcher. Some properties made use of a manual access control register at the entrance whilst some had automotive gates where the visitor must press the control pad. The application of technological measures is the prerogative of the CPGR owners as most properties indicated they are content with current security measures and are restricted from expansion due to financial constraints. The expensive cost of technological infrastructure

implementation and maintenance is a limiting factor indicated by some properties.

Bar Chart 5: Security Technology Measures



5.3.3.13 Effectiveness of security measures

The effectiveness of the security plan will lay the path for others to follow who face the same challenges. Risks may differ in terms of the type of game reserve, number of visitors, number of incidents, occupancy rates and other factors however, the effectiveness of a security programme is paramount. The physical and technological measures given by participants appear, according to some (13 out of 30) participants to be effective and in some (13 out of 30) cases, the measures are very effective. Few (four out of 30) responded that the measures are good.

The determination of the effectiveness of the security programmes of CPGRs is subjective to the opinion of the security/reserve manager and remains a challenge to assess due to the many variables, such as the size of properties, locations and topography, that makes conventional security methods less practical as substantiated by participant **P4:** “I think it is very effective, but it still lacks updated technology for

sure, as in perimeter cameras, alarms and beams that work. It's very difficult because of the location of the property … but definitely looking at something like that" and participant **P20** added: "The technology we really need is too expensive".

5.3.3.14 Method of managing risk

The researcher intended to determine the main methods used by CPGRs to manage risks. The intention was to ascertain specific strategies of a CPGR after a loss occurring event. Ortmeier (2013:158) refers to elimination, reduction or mitigation whereas Fay (2011:121) indicates methods of managing risks as avoiding the risk, reducing the risk, diffusing the risk, transferring the risk and accepting the risk, however, this question appeared to have been incorrectly interpreted by participants. Nonetheless, examples were given by participants that add value to the overall analysis. A proactive approach to reduce risk was named by some (six out of 22) properties. Most (12 out of 22) properties indicated the implementation of physical security measures to manage the risk with three out of 22 properties applying technological measures for mitigation and two referred to training as a solution.

Only two properties mentioned acceptance and insurance will apply, and two indicated they transferred their risk to outsourced security service providers and one property indicated they treated their risk by removal. This participant indicated they were victims of rhino poaching and the owner sold and removed the remaining rhinos subsequent to the poaching incident.

The above information indicates participants are not knowledgeable in regard to descriptions of methods of managing risk. In reality, the practical methods applied by risk practitioners of CPGRs vary and the type of incident and impact thereof will determine the application of the method. Risk mitigation after risk events occurred is mostly used whilst methods of managing risks are acceptance, reduction and transference of risks.

5.3.4 Section D: Factors contributing to a security risk management programme for CPGRs

With most CPGRs operating personnel-intensive security programmes, McCrie (2007:249) explains that personnel applications change over time. In the unique analysis in this study of CPGRs, which are mostly personnel-intensive operations, the application is relevant to all three staff categories of a CPGR (vide section 5.3.2.3).

5.3.4.1 Employee vetting

Vetting, or pre-employment screening, has become an essential tool to identify employees with potential risk(s) before employment (McCrie, 2007:65). These risks include inter alia credit risks, criminal history and identification theft. While vetting is substantiated in literature, however this ultimately remains the prerogative of the property's management or owners to perform such verifications. It can be argued that a staff member with a high amount of debt carries more risk to a business or is more susceptible to being targeted by criminals to sell information. Therefore, a security countermeasure to reduce risk would be to perform thorough staff vetting before employment. However, screening is mostly conducted prior to employment and thereafter no regular post-employment screening is normally conducted. Thus, should an employee's risk profile change over time, the CPGR will be unaware. CPGR owners and other risk owners should initiate a strategy to screen employees more often, especially when high risks, such as poaching, applies to that CPGR.

Most (14 out of 22) indicated that they perform pre-employment screening with some (12 out of 22) only doing criminal checks. Two properties did mention that they also make use of polygraph testing when necessary. Although not asked or specified in the interview schedule, the researcher believes this number could be related to the sensitivity of some CPGR security operations. Seven properties indicated that they do no screening with one stating they only do reference checks. One property indicated they have not had the need to employ new staff due to a very small staff turnover rate. One property indicated they are unaware if owners make use of vetting. This means that almost a third of properties do not perform proper vetting.

5.3.4.2 Motivators for staff not to commit crime on a CPGR: Salaries and incentives

With reference to Maslow's hierarchy of needs, McCrie (2007:145), Rossouw (2005:55) and Fay (2011:38) state that the bottom tier refers to physiological needs and the next level tier refers to safety needs of an individual. Both these aspects require a person to earn a salary in order to sustain him or herself. In today's economic times, living costs are high and could be challenging for an individual. For this reason, an analysis was performed to measure or identify if earning a salary is a motivator not to commit crime on a CPGR, in the opinion of the risk manager. The researcher's own understanding is that a salary is paid relative to skills, qualifications and experience necessary to perform the set tasks of an incumbent. This simply means a qualified chef will earn a superior salary in relation to a cleaner, for example. The data collected indicated the following:

Security staff

Four properties indicated they are not familiar with the security salaries as a result of outsourcing the security services. Nine properties pay the minimum wage of between R3,500 and R6,000 per month whereas four properties pay above the R6,100 threshold. This is most likely to their anti-poaching units (APU) who use firearms as part of their duties and/or in-sourced staff who receive a better salary than contracted staff (vide section 4.2.6).

Reserve staff:

One property responded that they do not know what reserve workers earn whereas 21 properties pay the minimum wage of between R3,500 and R6,000.

Hospitality staff:

Three properties responded they do not know and 17 properties pay the minimum wage of between R3,500 and R6,000 and only two properties pay above the R6,100 threshold.

Most properties (13 out of 22) indicated they perceive the salary amount paid as a motivator not to commit crime and some (eight out of 22) are of the opinion it does not

prevent crime. One property responded with a “maybe” but this is purely the opinion of the employer or manager. If the same question is put to a staff member, their opinion could very possibly be different.

Participants further indicated that, apart from the basic salary, some staff members receive overtime pay, tips, benefits and incentives but this response was limited. On the other hand, certain respondents indicated that salary could be better, one participant indicated it is not enough and another one indicated it is not a motivation. The question whether a basic salary, which is tied to the operational expenses, visitor rates and revenue, is sufficient will be subjective to the individual. Therefore, further motivators, as Maslow’s hierarchy indicates, are needed.

Besides the payment of salaries, participants were asked to indicate what other motivators are used to motivate staff and the responses were:

- Bonuses (seven out of 22) properties;
- Incentives (four out of 22) properties;
- Three out of 22 provide food rations; and
- Three out of 22 provide rewards where necessary.

Certain participants mentioned recognition, motivation and promotion as motivators. Two participants responded “unknown” to the question and some (seven out of 22) of the properties indicated that they do not use any other motivator.

5.3.4.3 Motivator for staff not to commit crime on a CPGR: Training

Responses received indicated some (14 out of 22) provide training of some sort with a few (eight out of 22) not providing training. Further indication provides that only nine out of 17 properties provide specialised training to their security officers whilst eight out of 17 do not. This means that training does not appear to be a substantial motivator but could also not be excluded as the results are fairly even. Proper training, aimed at improving security officials and other staff members’ performance, could improve overall service delivery and provide motivation to staff members especially for security staff that interacts with visitors daily.

5.3.4.4 Motivator for staff not to commit crime on a CPGR: Supervision

In any operation or business, supervision is necessary for the business unit to achieve its targets. This is supported by McCrie (2007:139) who states that supervisors and managers are responsible for maintaining productivity at the workplace and motivation is a method, amongst others, to achieve this. Most (13 out of 17) participants indicated that there is a team leader, supervisor or manager deployed on a shift for security staff and a few (four out of 17) indicated that there is no supervision within the operation.

The challenge for any security manager or supervisor is to measure the performance of the security officials to ensure the maximum output of personnel is achieved. To measure this, the researcher identified the measuring tools that are used and these include: reports (named twice), technological applications (named three times), observation (named four times), spot checks (named twice), the use of radios (named twice) and the use of Guard Track/Sentinel tracking system (named twice). Some also mentioned the use of inspections and site visits.

The concerning part for the researcher is that seven out of 22 properties indicated they do not use any measuring tools. If no measuring tool is used, a CPGR cannot regulate compliance with a security standard, policy or procedure. This may cause a security plan to fail. If measuring tools are properly applied, a performance bonus could be attached to them which would serve as motivation for personnel to perform their duties effectively and efficiently.

5.3.4.5 The use of intelligence sources

The use of intelligence to prevent crime on CPGRs drives a successful security programme (vide section 4.2.7). In order for the security risk practitioner to provide recommendations for security programmes, he/she should be familiar with crime trends, modi operandi, crime statistics and other relevant information which contributes to a successful security strategy. Most (13 out of 22) mentioned the use of the SAPS through the community policing forum (CPF) and Rural Safety committees as a source from which they receive intelligence. Almost half (10 out of 22) have informants providing information periodically and a few (three out of 22) mentioned that staff provides them with information.

In cities, neighbourhood watch groups are formed to patrol areas and assist during emergencies. Some participants (12 out of 22) have joined local groups who share information on social network groups, such as the WhatsApp cell phone applications or social media groups. Through these network groups, four out of 22 properties mentioned that intelligence is sourced through community patrols or a farm watch and a few (four out of 22) specifically referred to intelligence sharing groups as a source. Only one property indicated that they are not part of any intelligence network.

Intelligence sharing in general appears as a challenge. The participants indicated that community relations should be important however, not all information is shared easily and that some neighbouring or close proximity reserves cannot be trusted with information. The researcher observed that intelligence sharing networks are a sensitive issue.

5.3.4.6 Use of maps to record incident locations

As indicated in Chapter 4 (section 4.2.7.1), the use of maps as a source of information can enhance the quality of crime information significantly. However, the researcher found that most (16 out of 22) properties do not use maps. Only five out of 22 make use of this measure with one participant providing an “unknown” response. Maps are mostly used for planning purposes as participant **P4** described: “Maps are used for deployment purposes”.

If the risk manager incorporates crime maps in the overall intelligence gathering strategies, a more inclusive countermeasure programme can be designed. The use of crime maps are useful indicators and methods of recording suspicious activities and incident locations.

5.3.5 SECTION E: The contribution of crime prevention to the security risk management programme

Crime prevention designs, concepts and strategies (vide section 4.3) are constantly evolving. For a CPGR, the most crucial aspect is to prevent crime occurring in close proximity to the reserve or immediate surrounding area. Participant **P1** stated: “Help fight crime there, not here”. This is achieved through strategies, such as crime displacement or, as described by participant **P2**: “… building a sort of buffer against

crime”.

5.3.5.1 Understanding crime prevention

The success of a CPGR’s crime prevention strategy remains subjective to an individual as it is impossible to quantify the prevention of any potential attacks or if any incident were deterred or deflected due to a crime prevention strategy or a security measure implemented by a game reserve. A holistic crime prevention strategy, on the other hand, or incorporated strategies by a designated area (community), can indicate some form of success or value in terms of crime statistics. For the security risk practitioner, it is important to understand crime prevention. The data reflect that most (26 out of 30) participants have a fair to good understanding and four out of 30 have a poor understanding.

Even though most participants have a good understanding of crime prevention, the critical factor to assess is whether these properties apply proper strategies in order to achieve crime displacement. Participant **P14** indicated: “To keep the criminal element out of this GR” and participant **P16** stated: “Deterrence to be in place so that they do not even try anything”. Most participants (24 out of 30) indicated they do have a crime prevention strategy in place whilst six out of 30 indicated that they do not.

As part of SAPS crime prevention strategy, the stations formed what is known as a community policing forum or CPF. Members of the public can join the local CPF in order to liaise with the SAPS. Most (18 out of 22) properties are part of a CPF and a few (three out of 22) are not. One respondent indicated they do not know. To add value to a community policing strategy, properties should incorporate such strategies as stated by participant **P11:** “To me, being proactive is number one in crime prevention and trying to keep the criminals from coming into the reserve”. Most (19 out of 22) indicated that there is a community policing strategy in place and a few (three out of 22) are unaware of such a strategy. In response to supporting and partaking in the community policing strategy by game reserves, most (18 out of 22) responded “yes”, few (two out of 22) said “seldom” and few (two out of 22) responded that they do not. Participant **P6** described crime prevention as**:** “It’s putting measures in place to prevent the direct threat of crime in your area” and participant **P10** indicated: “To make it as difficult as possible for whoever wants to get up to mischief to be visible or visible

policing”.

5.3.5.2 Communities established near the game reserve

The researcher tried to establish if the location of a local community in close proximity to a game reserve affects the crime experienced by a particular CPGR. The researcher used a distance of 6.5 km radius as the circumference as a baseline measurement for a community established next to, bordering or near a CPGR. Therefore, a local community outside the circumference of 6.5 km would be excluded in the “near” description.

Of the 22 properties analysed, half (11 out of 22) has a community nearby and half (11 out of 22) do not. The researcher analysed crime occurring on both halves. Of the properties near communities, some (five out of 11) indicated some crime occurs more than once a year and some (six out of 11) responded that some crime occurs once a year. On the contrary, properties with no community located nearby indicated that crime occurs more than once a year and most (seven out of 11) stipulated they only experience an incident yearly.

The researcher is cognisant of the fact that the above indicators are variables of the types of crime. As a result of a participant not referring to petty theft but to serious crime (such as poaching, for example) in his/her response, the frequencies could increase. With the responses being fairly even, no clear significance is indicated and thus one can assume that the location of a property in proximity of access roads is more significant and exposes a property to crime more than a community situated near to or next to a game reserve. Confirmation of this finding would be difficult to determine since, if a small item of little value is stolen, it is most likely a staff member residing within the local community or even on the game reserve, but a rhino poacher, for example, would use alternative characteristics to target a CPGR and would not necessarily reside near or next to the game reserve even though Hübschle and Shearing (2018:5) state some poachers originate in local communities and live near game reserves. Hübschle and Shearing (2018:33) state that community policing projects may yield better results than private security companies fighting poachers.

5.3.5.3 The use of a security awareness programme in the community to reduce crime

Security awareness programmes can contribute in two ways. As part of the CPGR crime prevention strategy, such programmes can educate the local community about crime and crime detection measures. Alternatively, as part of sustainable tourism, a CPGR should strive to improve the local community through social upliftment. The very same programmes can be used to identify potential individuals for the Expanded Public Works Programme (EPWP) programmes and initiatives. With most (18 out of 22) of CPGRs not presenting any security awareness programmes to local communities, this should be considered for educating the youth. Only four out of 22 properties supports security awareness programmes as participant **P5** adds: “Assist the SAPS to educate children on crime”.

5.3.5.4 In-house security training programmes for other staff to mitigate crime

Of the 22 properties, only some (10 out of 22) properties indicated the use of such programmes, whether formal or informal, with most (12 out of 22) indicating they do not. Of the 10 properties, two properties indicated they have informal training and three indicated they do awareness talks.

Security awareness programmes teach all staff members to look out for signs of suspicious activities, to be aware of potential threats and risks and how to be security conscious. CPGRs often overlook this opportunity. All staff members are a source of intelligence and are potential crime prevention members, especially if they live in the local communities. If awareness programmes are implemented, a reserve may benefit from that. On the other hand, all staff members are susceptible to bribes from criminals to divulge information about the reserve.

The researcher was only seeking to determine the existence of in-house training programmes, such as a security awareness programmes, to reduce crime and therefore the quality of such a programme for this study is irrelevant.

5.3.6 SECTION F: The future for the CPGRs

The future of CPGRs remains in the hands of its custodians. Many challenges are identified throughout this chapter with each one being important to the overall success strategy of a CPGR. Proper security measures contributing to the safety and security of the game reserve enhance the image of the property and build its reputation as a safe and secure reserve for eco-tourism and the contribution it makes toward conservation.

Cousins et al. (2008) found that wildlife ranches, which are fenced areas with the main purpose of producing free-living wildlife, play a necessary role in conservation worldwide. CPGRs share certain attributes of wildlife ranches, such as conservation, by maintaining the natural environment. All the game reserves in this study are fenced and this requires mechanical or human intervention (maintenance) and management. The important contribution of a CPGR to conservation through protecting the natural habitat, supporting the reintroduction of threatened species (Cousins et al., 2008:1) and providing a habitat for these species and many others, such as birds and insects, cannot be excluded. Tourism can provide a strong incentive for the protection of natural areas (Balmford et al., 2009:4). Douglas and Alie (2014:276) state that it is important not to ignore the contribution wildlife makes to natural resources. Most of the respondents (27 out of 30) believe that CPGRs are critical to conservation with two who believe they are not and one participant replied that he/she does not know. Security measures are therefore an essential tool to add to the protection of game reserves and their conservation functions (Wildlife campus [sa]:4). The participants added the following:

P4: “Lack of support from current government institutions, if you take the total number of animals in private or commercial lodges, specific on some endangered species, I think there should be a consideration once again towards tax rebates or assistance in services from a security perspective to assist with the safe keeping of that [wildlife]”.

P5: “Without conservation the animals do not have a place to be safe. Without game reserves, there will be no place for the animals”.

P6: “Breeding good genetics back into the system”.

All the above indicate the vital contribution a well formulated security programme can make towards ensuring a CPGR remains profitable through securing its people, infrastructure, fauna and flora. Participants indicated concerns about government legislation (14 times), policies and political instability. Other concerns include land expropriation (four times), economic stability of SA (three times) and producing a good tourism economy/industry (twice) in SA. Another big concern identified by most respondents (16 out of 22) is the safety and security of visitors. News of tourists being victims of crime is a common occurrence and the government should strive towards combating crime.

The participants continued to mention factors, such as creating unique activities or producing a product that is in demand, that contribute positively to a CPGR. This is achievable through an increase in visitor numbers and the occupancy rate of the property. Depending on various expenses, industry standards indicate that a lodge should exceed 65% average occupancy per annum to be profitable and in this study (see section 5.3.2.4) the average is calculated at 52% which creates concern. If tourists do not support game reserves, security funding will shrink and conservation efforts will be threatened. The preservation of wildlife was mentioned twice whilst one participant added that, to ensure the future, requires sufficient land surface. More attention could also be given to tourism training or education.

The consistent determinant is to produce a safe tourism product of high quality and value in which the tourists are protected from crime. This will increase the number of tourists to SA and CPGRs and would raise potential employment providers in this niche market.

5.3.6.1 Defining sustainable tourism

As described by Edgell (2016:1), a new approach to tourism in the 21st century is revealed by tourism consumers. The trend indicates that tourists expect quality in terms of a clean environment and products that include heritage and culture. Edgell (2016:4) provides the guideline for the sustainability in tourism as practices and policies that coexist with economic, health, safety and security expectations of locals. Therefore, there must be a balance between economic growth and the protection and preservation of the natural environment or game reserve. Responsible tourism is a

main component of sustainable tourism (Edgell, 2016:16). Although the two ideologies are the same in concept, the researcher asked the definition separately in order to test the understanding of participants.

The basis of both concepts, sustainable and responsible tourism, is derived from the definition and understanding of eco-tourism. Ecotourism is defined by The International Ecotourism Society (2015) as “responsible travel to natural areas that conserves the environment, sustains the well-being of the local people and involves interpretation and education”.

Most (17 out of 30) respondents had a poor understanding whilst seven out of 30 had a fair and six out of 30 had a good understanding of eco-tourism respectively as participant **P1** explained: “The business model extends beyond the direct lodge, so it’s their contribution to the local communities, giving back” and participant **P7** added: “We are involved with social upliftment of the local village”. Participant **P23** stated: “Making sure that the tourists are safe in his environment, making sure that everyone on site is well trained and to give them (tourists) the most incredible experience”.

5.3.6.2 Applying sustainable tourism to the security programme

Edgell (2016:78) defines sustainable tourism as “achieving quality growth in a manner that does not deplete the natural and built environment and preserves the cultural, history and heritage of the local community and improves the welfare of the local people”. There are key themes within this definition, such as protecting the natural environment and community upliftment. A CPGR has the potential to influence sustainable tourism by contributing to the preservation of the natural heritage of its environment and to contribute positively to the welfare of the host or local community.

Participants mostly (16 out of 30) had a poor understanding of this concept with some (seven out of 30) a fair and a few (three out of 30) had a good understanding. Only four out of 30 did not comprehend the term.

P10: “Sustainable tourism, I would say, is to conduct your operation is such a manner that you obviously can make a living out of it, you can pay all your expenses and staff or whatever without having a detrimental effect to the environment, that you don’t destroy the environment completely that in a couple of years find that there’s nothing

left to continue".

In response to the involvement of CPGRs in social programmes most (16 out of 22) properties indicated that they are involved with some (three of 22) stating they assist as financial sponsors, three out of 22 contributing food (in some form) to NGOs or communities and two providing training. One property is involved in a community clinic. General crime can be reduced through community upliftment and development. As the ultimate goal is to create a crime buffer to a CPGR to limit a reserve's exposure to crime, a positive community who values and benefits from a game reserve could increase this crime buffer zone.

5.3.6.3 Financial cost of security programmes

During the one-on-one interviews, the question relating to the financial expenditure of security programmes, it was observed to be sensitive through the participants' body language and reactions. One property would not disclose that information, one respondent did not know and therefore the researcher will treat this information as confidential.

The estimated security programme cost will include security infrastructure upkeep, salaries, training, operational costs among other security related expenses. The estimated value of a security programme increases in relation to property size. This motivates the importance of the study's aim (vide section 1.4.1) to assist smaller sized CPGRs to formulate a comprehensive security strategy to reduce or deflect crime in their immediate area.

Participants indicated the financial value of the security programme is relative to their needs and the capital available with only two out of 17 properties adding that their security cost is set by their financial limitations. Therefore, smaller properties have less in relation to the larger sized reserves. Larger sized properties are extremely focused on countering poaching and a large portion of funds are allocated to these efforts. It is difficult to quantify the success of these operations in terms of prevention however some participants did indicate a reduction in poaching activities in their area due to counter poaching interventions and arrests of poachers.

The expenditure amounts vary from the lowest, being a few thousand rand per annum,

to over millions of rands in other reserves. The minimum combined amounts are well over R30 million per annum and that excludes the two properties that did not provide an amount. These are significant amounts of security expenses being spent by CPGRs to protect wildlife, visitors and infrastructure. In response to the researchers question if the amount spent is sufficient for the CPGR most (20 out of 30) participants indicated it is acceptable for their current situation. Few participants (10 out of 30) felt that the amount spent is insufficient. The amount spent, in relation to incidents occurring, justifies the security programme or, as one participant stated, they have a low incident rate. Two participants stated they need more security risk countermeasures and two stated they lack technological measures. One participant added that the security expenditure is adaptable to the business model which means that, as the business grows, so the security budget would grow in relation to the needs of the property. Participant **P30** stated: “It [security expenses] will never be enough, but we have to budget for it”.

5.3.6.4 Alternative source(s) of income to fund the security programme

Financial stability is required for reserves to fund their security operations in order to protect the fauna, flora and their visitors. When a lack of visitor numbers causes failure to meet financial targets (occupancy rate below the revenue threshold), it necessitates the CPGR investigating alternative sources of income. Most respondents (18 out of 22) indicated game breeding or game sales as the main alternative source of funding. Hunting (14 out of 22) is a source and some CPGRs already practice this activity as an alternative income. Other responses included a CPGR offering more activities, offering guests/volunteer programmes, agriculture, allowing day visitors and alternative fund-raising events with participant **P28** stating: “There is always something to do”.

The significance of this is the continuation of funding a security programme. Security programmes are often seen as a wasteful expense with little return on investment. Financial constraints cause security programmes to reduce costs which lead to a weak security plan. If game reserves produce alternative funding, security programme costs can be subsidised. An example of this is some CPGRs collect an overnight levy or a conservation levy which funds their security programme costs.

5.3.6.5 The need for corporate social responsibility in a security programme

Corporate responsibility (vide section 4.3.1) guides the researcher to analyse the understanding and application of corporate responsibility by CPGRs to develop and to uplift local communities as a strategy to reduce crime. Participant **P13** stated: “I understand it as how responsible we are as an entity in our immediate area. We use local suppliers and support local business and employ local people”. Some participants (six out of 30) had a fair to good understanding and response towards the question, as participant **P28** explained: “For us, in an area like this, that to me would be a responsibility to this community, so trying to uplift areas within the community”. The respondent continued to explain projects they are involved in for community upliftment. Most participants (18 out of 30) had a poor understanding towards the concept and six out of 30 participants indicated they have no understanding.

The critical finding for the researcher is that three out of four security managers do not understand this concept and thus the researcher can only deduce that it is not used as a crime prevention strategy. Most of the other risk managers (responsible for the security of a CPGR) also did not understand this concept. Some participants indicated corporate responsibility is the responsibility of the reserve to ensure a profitable business, comply with laws and be responsible towards their staff. The issue however is to determine if corporate responsibility applies to crime reduction in the CPGR as supported by participant **P5:** “Its 50/50, you help them, and they will help us”.

In order to verify this, the researcher attempted to establish if CPGRs are directly involved in community upliftment. Most CPGRs (13 out of 22) indicated they are involved in some form of projects or social contributions. In contrast, nine out of 22 properties indicated they are not directly involved with local communities. Contrary to this, one can argue that CPGRs are indirectly involved with community upliftment through other contributions to the community, such as job creation (named 11 times), supporting the local economy (named eight times), supporting education and training (named eight times) and a number of sponsorships and NGO support (12 out of 30).

Hübschle and Shearing (2018:33) state that the advance in security measures to prevent rhino poaching is to disrupt their trafficking network. This results in the local community being forgotten in this daily struggle. Hübschle and Shearing (2018:33)

add that, as long as conservation benefits a few, game reserves will remain subject to this conflict. This increases the importance of community upliftment. If the local community benefits from a game reserve, crime may decline.

5.3.6.6 Game reserve support: Non-government organisations' funding

Most (18 out of 22) properties do not receive funding from any non-government organisations (NGOs). Only a few (four out of 22) properties receive support in the form of funding for equipment, training and the installation of boom gates with licence plate recognition (LPR) cameras and other resources.

With the growing financial needs of CPGRs for security operations, NGOs can contribute to game reserves by funding or subsidising operational security expenses. The risk however is to ensure that unethical NGOs or fraudulent organisations are identified and that the financial support of tourists is not abused. NGOs play an important role in creating awareness of crimes aimed at wildlife. With limited government resources available, collaborations between governments and NGOs are becoming necessary.

5.3.6.7 Game reserve support: Government

Most properties (20 out of 22) do not receive any form of support from government in terms of advice, training or funding. The two properties receiving such support, do so through the EPWP which is a government initiative which was created during the Growth and Development Summit of 2003 by the Department of Public Works and Infrastructure (Department of Public Works and Infrastructure, 2018).

The EPWP objectives amongst other are:

- Creating jobs and training to create long-term employment;
- Creating land-based livelihoods;
- Promoting community-based natural resource management;
- Rehabilitation of natural resources and the protection of biodiversity; and
- Promoting tourism

(Department of Public Works and Infrastructure, 2018).

The EPWP appears as a strategy of which CPGRs can benefit from. All but three properties indicated they do expect some sort of support from government.

Most participants focused on crime-related support and need the government to concentrate on reducing crime to stimulate the tourism market (named six times). Participants stated that the SAPS must provide a better service (named seven times), recognise crime aimed at CPGRs as serious and produce tougher prison sentences for poachers through improved legislation. On the contrary, others were more focused on financial support through work generation, tax rebates (named twice), reduction in property rates, training (named three times) and rhino owner funding. Participant **P13** stated: “If the SAPS system fails, it costs us to employ our own [security] for our own safety”. The participant continued by saying that, if the SAPS fail in their goals, the property should qualify for a tax rebate on security expenditure.

Every country’s government plays a critical role in its tourism industry, whether by policy making, tourism promotion or legislation that contributes to the success or failure of tourism. Tourists’ demands have changes over time (Edgell, 2016:1) and it is vital for governments to understand these changes in order to adapt to them. Edgell (2016:1) indicates that businesses and governments, amongst others, must make conscious efforts towards developing and promoting sustainable tourism and preserving the resources that draw the tourists. The South African government (both national and provincial) must acknowledge all forms of wildlife poaching, such as animals, cycads and abalone, among others, as these natural resources may be depleted and lost. This could have severe financial consequences for the South African tourism market, employment industry and its suppliers.

Besides the focus on wildlife poaching, crime in general has to be recognised as a major threat to the South African tourism market. National and provincial governments can invest more in the development of the current tourism market specifically aimed at eco-tourism. This is supported by most participants (29 out of 30) who responded that government can do more to assist game reserves. Participants named possible solutions as tax rebates, especially on expensive anti-poaching costs, infrastructure improvements (for example, roads), a stable political environment, improved legislation relating to visa applications, improved SAPS rural strategies, the formation of environmental courts and improved environmental laws. Government assistance is

motivated by participant **P24**: “Security employed to look after our wildlife is paid peanuts and it’s a high-risk job, so they could be getting more. It is our national heritage that they should be protecting” and participant **P29** stated: “Farming and tourism is where the money is coming from [in this area] and with unemployment, it leads to crime. So, to reduce crime, they should make sure that tourism is thriving, so that we can employ more, and I believe if they make this a safer area, we can grow better and benefit each other. I feel 100% that they should protect tourism because it’s the main reason people are employed in this area”.

5.4 CONCLUSION

Throughout this chapter, the researcher analysed the data collected from the field work. Data were collected using the interviews, onsite observations and the use of an onsite checklist. The interviews were completed through one-on-one interviews using a semi structured method, by means of a semi-structured interview schedule (vide Annexure C). This created data that had to be reduced to be meaningful. The raw data were grouped into sections with guidance from the interview schedule. The analysis was executed by the formation of themes from raw data which were reduced from the interview transcriptions into manageable quantities. Although certain questions were incorporated into each other as the themes formed, the researcher is confident that all the data were analysed and interpreted. The analysis conducted explored the data to determine contributions towards the researcher’s aims and objectives as set out in Chapter 1.

All 22 CPGRs that participated in the research study were included in the analysis and data were reduced from the information provided from the 30 interviewees as well as the use of observations of participants. With the inclusion of all respondents, an understanding of concepts, opinions and data were achieved. The analysis started by interpreting the participants’ demographic information. Certain themes and data were supported by literature and references were made by interviewees’ verbatim responses. Observations of participants were also included.

This chapter accentuated the value that the security industry contributes towards tourism. Although CPGRs represent a small number of visitors, they contribute to conservation and the security industry. General crime potentially impacts all game

reserves through either direct financial losses or indirect financial losses as tourists seek other destinations or countries to visit where crime is less of a risk. Security measures implemented on CPGRs will improve and add to the tourist experiences in the game reserves in Limpopo province.

CHAPTER 6
SUMMARY OF KEY FINDINGS, ACHIEVEMENT OF AIM AND OBJECTIVES, RECOMMENDATIONS AND CONCLUSION

6.1 INTRODUCTION

In this chapter, the researcher discusses the achievement of the aims and objectives as set out in Chapter 1 (vide section 1.4) in order to understand the entire study. Only once the aim and objectives are achieved, proper and practicable recommendations can be made and then the formulation of a relevant conclusion which, in itself, aims to contribute positively to the study.

All the information in the previous chapters is now consolidated, interpreted, analysed and applied. The researcher reflects on the entire process, the information obtained, the methods utilised, in order to ensure no bias or premature conclusions were made. The data will guide the researcher to establish recommendations and to conclude the research study. A short summary of key findings will assist the researcher to ascertain if the aim and objectives were reached as determined from the onset of the research report. The findings are drawn from interpreting literature reviewed and research data analysed.

6.2 SUMMARY OF KEY FINDINGS

The following is a brief summary of the main research findings (vide chapter 5):

- Tourism is an important industry for SA and the CPGRs that support and maintain security programmes.
- An estimated 10 out of 30 participants indicated their visitors experienced some sort of crime exposure which is calculated to an average of 343 visitors per day (in this study alone) who are exposed to crime risks.
- Crime, in general, affects tourist's numbers negatively.
- Some security managers do not understand civil liability and the risks associated with it.
- There are more reserve managers responsible for game reserve security than

security risk managers. This is attributed to the expensive costs associated with security programmes.

- Employees conducting security related work are not security staff per se as the game reserves' requirements determine the qualification of its personnel.
- Very few thorough security risk assessments are conducted by CPGRs.
- Participants had a fair understanding of threats and risks.
- The impact of crimes on CPGRs varies from insignificant to severe.
- Frequencies of crimes vary by the type of crime committed. The most regular crimes occurring are petty-theft, meat-poaching and trespassing.
- There is no set standard for the use of physical and technological security measures. The security programme funding determines the use and application of countermeasures. Patrols in various forms, CCTV and intruder alarms are the most used countermeasures.
- All participants indicated that security countermeasures vary from good to very effective on their properties. However, more measures are needed but the improvements are limited to the cost of the measure versus the benefit of the measure.
- Although employee vetting is used by most properties, continuous staff vetting is lacking.
- Motivators for staff not to commit crime, such as salaries, training and supervision, are minimal and are a cause of concern.
- Various intelligence sources are used, and the importance of a community network is accentuated.
- Crime prevention, as a complete prevention strategy, is subjective to risk owners, although most have a type of strategy in place.
- The financial cost of security programmes on CPGRs varies from thousands to millions per annum and this expenditure is determined by the risk appetite of the reserve as well as the funds available.
- Very few in-house security awareness programmes are used to reduce crime.

All staff members are needed to protect visitors from crime risks.

- Some CPGRs lack NGO support for the maintenance of their security programmes.
- Most participants indicated that the national government can provide more support to CPGRs in various forms and that programmes, such as the EPWP, should be expanded.
- Sustainable tourism is a key term for risk owners and practitioners to understand and to incorporate it into security programmes.
- Alternative sources of income are available for CPGRs to fund security programmes however it appears as if the willingness of the business to explore such measures is limited for various reasons.
- Corporate responsibility is a new trend in crime prevention and community upliftment is becoming more important to include into a security risk management programme.
- Security awareness programmes in communities are neglected by CPGRs and much improvement is required in this regard.
- There is no significant data that a community established near CPGRs is responsible for crime, however, it cannot be ruled out. The same data do not indicate exclusively that a CPGR experiences more or less crime due to its proximity to a SAPS station. Importantly, the data do indicate that crime activities and frequencies increases in relation to CPGR's proximity to a town.
- The data indicate that larger sized CPGRs are more vulnerable and exposed to crime.
- Smaller sized CPGRs are more fearful of contact crimes such as farm attacks.

6.3 ACHIEVEMENT OF RESEARCH AIM

The aim of the study (vide section 1.4.1) was to identify, analyse and scrutinise security measures implemented on CPGRs in Limpopo province and the effectiveness of security risk countermeasures as conferred throughout the chapters. Much information denotes the contributions of the research aims. The research aims, according to

Fouché and De Vos (2011:94), are further achieved by research objectives that are more measurable concepts.

6.4 ACHIEVEMENT OF RESEARCH OBJECTIVES

The research, as set out in the previous chapters, guided the researcher to achieve the objectives set out in Chapter 1 (vide section 1.4.2). The achievement of the research objectives is discussed below:

6.4.1 To analyse the application of security risk management at CPGRs in Limpopo province.

The application of security risk management concepts is difficult to measure. The researcher was guided by academic literature and interpretation whereas the participants are guided by practical and non-academic methods. With no previous research specifically in this regard, it was difficult to identify a baseline from which findings could be measured. However, this analysis contributes to the entire CPGR community and stimulates further research

The factors identified and discussed in the literature review were used by the researcher to conduct the research (vide Chapters 3 and 4). The understanding of those factors by participants was tested and analysed. Holistically, participants had fair applications of security risk management concepts. These were discussed throughout Chapter 5 and summarised in this chapter (vide section 6.2).

Many different needs for a security risk management programme exist. The researcher found there are few security risk managers employed on CPGRs in general and that security responsibilities are incorporated into the daily tasks of other managers and therefore they are described as risk practitioners. The risk practitioner will then be responsible to apply security risk management on a CPGR in Limpopo.

The most crucial factors of a security risk management programme were divided into physical, personnel and information risk management. With only one property specifically referring to information risk management as a critical risk to a CPGR, the analysis of security risk management shifted to physical, technological and personnel risk management.

A major aspect of security risk management is the use of security risk assessments which were lacking in most of the CPGRs in Limpopo (vide section 5.3.3.6). A security risk assessment will provide a CPGR with guidance to improve on security risk countermeasures. The assessment uses information of crime frequency, probability and impact (vide section 5.3.3.9). Game reserves are all exposed to various types of crimes and the success of a security programme is recognised in its ability to reduce the frequency, probability and the use of mitigation strategies to reduce the impact of crime and its effects on a CPGR's assets.

The next concept is the application of physical and technological security measures (vide section 5.3.3.11 and section 5.3.3.12). The key finding is that conventional security or academic applications are less applicable to a CPGR. Fences, as the first physical barrier, are designed to keep wildlife in rather than to keep criminals out. With CPGRs' vast areas, fence alarms, fence lights and the use of CCTV on perimeter fences are impractical and would be an enormous financial expenditure with an uncertainty that it would reduce crime or reduce the exposure of the property to crime. The most common application of measures are patrols (foot and vehicle) and CCTV use in close proximity to the main building areas. To add substance to the analysis, the effectiveness of security countermeasures was also considered.

6.4.2 To analyse the factors of the security risk management programme at CPGRs and its effectiveness

No security programme can guarantee a zero loss or probability of crime occurring however, its success can be measured through its effectiveness (vide section 5.3.3.13) in limiting or reducing crime to be within the risk appetite of the CPGR. If a loss event is acceptable to a CPGR, there is no need to alter the security programme. As security programmes on CPGRs are supported and funded by tourism, a tourist becomes a valued human commodity within the security programme. The impact of crimes that occur on a CPGR can be quantified (in terms of value) whereas the impact of a tourist affected by crime cannot be measured (in terms of impact on its business) or quantified. Therefore, the effectiveness of the security measures on a CPGR is essential to keep tourists safe from harm.

The factors that contribute to a security risk management programme (vide section

5.3.4) are identified inter alia as employee vetting, motivation, the use of intelligence and the use of maps. These factors enhance the quality and the effectiveness of a security risk management programme and therefore need to be incorporated within the crime prevention strategy as part of the security risk management programme.

The effectiveness of security measures (vide section 5.3.3.13) were indicated by most participants to have an effective to a very effective rating which denotes to the researcher that, depending on variables, they have a moderate effectiveness overall. Many variables are identified which influences the effectiveness, such as property location in relation to a town, property size and the business model of the CPGR.

6.4.3 To analyse the use of a crime prevention strategy as a security measure by CPGRs

The researcher found that, in order to reduce risk, the risk owner must refer to the Triangle of Crime Causation (vide Figure 4). It refers to the reduction of one of the elements of the triangle which are indicated as desire, ability and opportunity. Very little influence can be exerted by a CPGR to reduce the ability of a person to commit a crime. However, the security programme can reduce the desire and the opportunity. Any identified crime risks aimed towards a CPGR have the potential to severely impact the business hence the importance of understanding security risks (vide section 5.3.3.8) and crimes occurring (vide section 5.3.3.9) to complement the crime prevention strategy (vide section 5.3.5). Communities established next to or near the CPGR are the main focus. The findings indicated that CPGRs are mostly part of a community policing strategy (vide section 5.3.5.1) however, very little contribution is made to use security awareness programmes in the community and within the CPGR to reduce crime (vide section 5.3.5.3). Crime prevention starts within the CPGR to make all staff aware of crime indicators yet, this is poorly applied (vide section 5.3.5.4).

The research findings indicate that most CPGRs experience low crime occurrences on average., some as little as one incident per year. As discussed throughout the dissertation, smaller CPGRs do not have the same financial means to combat crime as larger properties do, however, justification of the costs of larger properties is in relation to different risks. Larger properties are more exposed and targeted for wildlife crimes such as rhino poaching. Again, more in-depth analysis must be done to identify

the best security measures to deter such crimes. The research does indicate that all CPGRs are vulnerable to common crimes.

The researcher found that crime prevention, through applying sustainable tourism (vide section 5.3.6.2) and corporate responsibility (vide section 5.3.6.5) concepts to the security programme, may contribute to community upliftment. In order for a CPGR to remove the desire for an individual to commit a crime, one must uplift such an individual's social circumstances. The concepts named above are focused on community upliftment, employment creation and other contributions towards the local community. As this objective unfolded, it directed the researcher to the importance of reducing the risk rather than mitigating the impact of a risk event. Through community involvement and upliftment, crime prevention and reduction seem possible although government, as the biggest stakeholder, should lead the addressing of social inequalities and the private sector including CPGRs will follow suit.

6.5 LIMITATION OF THE STUDY

Denscombe (2002:126) states that no research project is perfect as every investigation involves compromise and a researcher may be confronted with limited resources and research tools. Hence the researcher cannot deny limitations or research problems experienced. Fouché and Delport (2011:111) add that potential limitations are often numerous even in a carefully planned research study. In essence, a balance in the research approach should be included by the researcher to prevent misleading the reader (Denscombe, 2002:126). The researcher experienced some problems during the research and discusses them as limitations of the study.

6.5.1 Sample size and available participants

The sample size potentially carries the largest weight of this study's limitations. Consequently, the researcher believes the sample size is a limitation to produce a greater volume of data and a larger sample of CPGRs that could have been included. The researcher intended to interview security managers employed by CPGRs however, the reality is not many CPGRs can afford full time security managers. Therefore, the security responsibility falls within the scope of other managers, inter alia, general managers, farm managers and reserve managers. The researcher

altered the sample design in order to allow the inclusion of such managers.

With the initial commencement of identifying participants, some CPGRs declined the invitation while other reserves did not reply to requests. Based on the uncertainty of their willingness to participate, those reserves were excluded from the study. This affected the sample size by approximately 10 CPGRs that declined requests or did not respond to requests to participate.

The identification of willing participants was difficult. With the current onslaught of rhino poaching over the past few years, many reserve owners were sceptical about taking part in the study. With the low number of participants, generalisation may be problematic however, the researcher ensured validity and reliability as per the research design and thus ensured the trustworthiness of the study.

6.5.2 Lack of data collection

According to Maree (2007:82), both document analyses and literature reviews are forms of written data sources that should form part of the researcher's data gathering strategy. Denscombe (2007:227) states that the use of documents can be treated as a source of data gathering. The analyses of documents in the form of incident reports, policies and procedures of CPGRs are forms of data collection and a source to validate information provided by the participants.

Unfortunately, this did not materialise. As many of the CPGRs were sceptical of sharing information, documentary analysis became a limitation. Furthermore, certain game reserves make use of informal record keeping, rather than incident reports, so there were no reports to inspect. For this reason, and due to time constraints, the researcher was unable to scrutinise documents in detail. However, the researcher is of the opinion that this will not influence the outcome of the research findings. The researcher trusts the honesty, integrity and reliability of the interviewees and that the information provided is correct and true.

6.5.3 Sensitivity and sharing of information

A limitation to the study was participants' reluctance to share accurate and true information. It was a difficult and complex research project to establish and to ensure

that adequate information was retrieved. With the sensitivity of information, information sharing, and the risks associated with crimes (wildlife and general crime) at CPGRs, the researcher found that some participants were reluctant to divulge certain information even though confidentiality and anonymity was assured.

CPGRs are resistant to divulging sensitive information specifically relating to their security operations and plans because it poses enormous risks to the individual and/or to the game reserve. With the reassurance that the researcher would treat all information as sensitive and that participants would not be identified, some information was still not made available as participants were observed to be doubtful about sharing certain information. The researcher avoided the scrutinising of specific security operations information, for example, counter-rhino poaching methods and strategies, with the knowledge and understanding that this information is sensitive to share. However, the impact of this is low on the general findings of this specific study.

The researcher had to trust the information provided by participants as true and accurate. It is possible, in order to protect themselves, participants provided the researcher with lower numbers of crime incidents or crime related data. In order for the researcher to provide more accurate research data, this limitation was anticipated. More emphasis was directed towards understanding the application of security risk management concepts as prescribed by the literature reviews (vide Chapter 3 and Chapter 4) by the participants. It is clear however in this field of study that information sharing remains sensitive.

6.6 RECOMMENDATIONS

The researcher intended to analyse the security measures of CPGRs to contribute positively with meaningful and relevant recommendations. All crimes affecting a CPGR have the potential to negatively impact visitors. Moreover, any crime committed against tourists has a potential to negatively impact on the entire tourism market of SA. This could be damaging to a poverty-stricken country with an already high unemployment rate. The value of a CPGR is emphasised as they also contribute to conservation and the protection of endangered wildlife species and eco-systems. Therefore, the protection of the tourist market, and specifically a CPGR, is essential.

Due to the low number of security risk managers, a risk management model is recommended by the researcher to be used by risk practitioners to guide them during the process of establishing a security risk management programme on a CPGR.

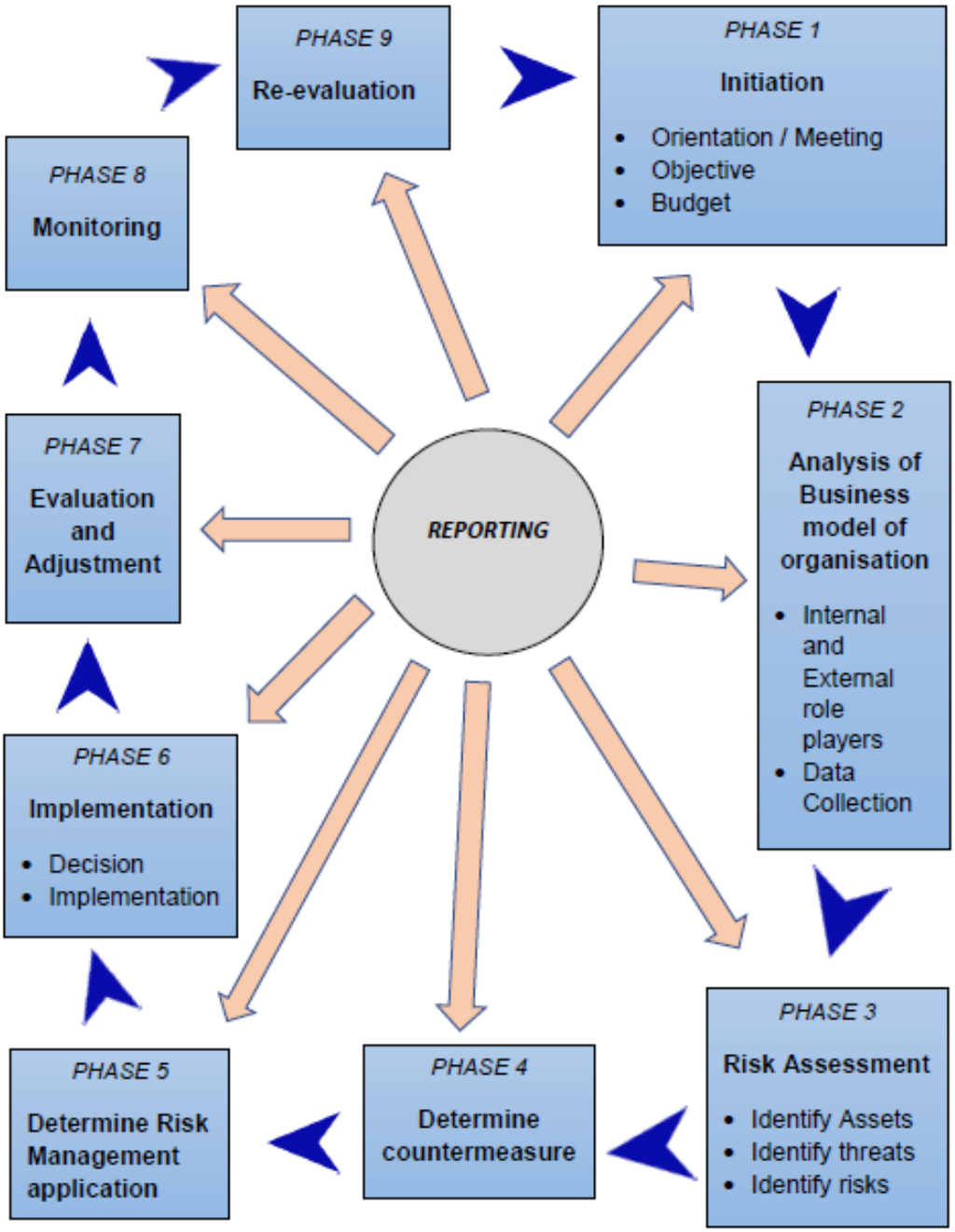
6.6.1 The recommended security risk management model for CPGRs

The researcher indicated in the problem statement (vide section 1.2) and rationale of the study (vide section 1.3) that the intention of the researcher was to formulate a risk management model for CPGRs to reduce crime risks. The phases of the model are identified as:

1. Initiation phase;
2. Analysis of business model of organisation phase;
3. Risk assessment phase;
4. Determine countermeasure phase;
5. Determine risk management application phase;
6. Implementation phase;
7. Evaluation and adjustment phase;
8. Monitoring phase; and
9. Re-evaluation phase.

The researcher further makes the deduction, that with the application of the above model, each step should be described as a phase. Each of the phases will include multiple actions and a prolonged time to complete but will provide more in-depth information to the user. This model intends to have a universal application as a risk management and assessment guide to add to crime prevention strategies and their applications.

Image 2: Recommended Security Risk Management Model for CPGRs



1. Initiation phase

Orientation/meeting

During the initiation phase, the risk practitioner (or the risk owner of a CPGR) will use this phase to orientate him or herself with the business needs and the aim of the project. In the event of a private security company, it this is crucial to meet the clients and understand their needs. If it is to be an in-house organisation, the orientation is important to establish clarity on what the CPGR needs to achieve through security risk management.

Objectives

The objectives the risk owner wants to achieve must be clearly stated. This will be the guideline for the risk assessment phase and provide the guidance throughout the entire project. An agreed time schedule must be discussed as part of the objectives. The period of evaluation and monitoring should be discussed and agreed upon.

Budget

Any form of funding required to establish and conduct the risk assessment project must be determined, decided and agreed upon.

2. Analysis of business model of organisation phase

In this phase, the risk manager must analyse and ensure he/she has a proper understanding of the business model and practices of the organisation.

Internal and external role players

For any person assessing the risk of a business (CPGR), it is vital to understand the business activities and the processes involved. The risk practitioner must identify all internal and external role players of the business that can influence the business. This will ensure that countermeasures are holistic in their approach which would include multiple stakeholders.

Data collection

The risk practitioner will determine the manner in which data will be collected through interviews, observations, policy and procedure reviews and inspections. This is a critical phase to ensure bona fide data are used and analysed.

3. Risk assessment phase

Arguably the most important phase which would add value to the security risk management programme. The different sub-phases need equal attention.

Identify Assets

The assets will be identified during this phase. The importance of each asset will vary, and this can be determined by adding a monetary value to each asset. This will guide the risk practitioner to relevant cost in the security measure later.

The challenge for a CPGR is the value of human assets. Whilst tourists are visiting the property, they are assets, as they are valued by the CPGR and are the source of income. A balance between the visitor and the wildlife should be made as they are interdependent. This means that not all the resources should be allocated to protect the wildlife and not the visitor and vice versa. This choice will be subjective to each risk owner and CPGR.

Identify threats

Throughout the research study, the researcher indicated the difference between threats and risks (vide section 3.4.4) therefore the researcher deliberately separated the identification of threats and risks. This distinction is important to CPGRs as they vary in the activities they offer to their visitors. The threats must be classified according to natural threats (fire), man-made threats (crime), hazards (such as occupational health and safety risks) and litigation threats (civil litigation). The risks associated within each threat class will be determined and identified separately notwithstanding that risks may overlap in the classes.

Identify risks

The risks the CPGR faces must be identified and listed. Alternative sources of

information, such as SAPS statistics and incident reports, can be useful during this phase to incorporate multiple risks and to gain more information of the risks associated with the area and the CPGR.

Establish the probability, frequency and impact

Once the identified risks are determined and categorised according to threats, the risk practitioner must determine the probability, frequency and impact of each risk. That can be achieved by assigning a numerical number/value to it. This will guide the risk practitioner to prioritise each risk. An opinion of risk prioritisation is a subjective opinion of each risk practitioner.

4. Determine countermeasure phase

During this phase, the risk practitioner should identify, design, construct and formulate countermeasures. A guideline to any formulation of a countermeasure is the analysis of the cost versus the benefit. The countermeasure must complement the activity and not prevent it from occurring. Countermeasures may vary from simply implementing security policies and procedures (SOP) to the design of a complicated technological integrated security measure. Hence the notability of the cost vs. benefit analysis exercises.

During this phase, academics normally recommend a return on investment exercise. The researcher refrains from this recommendation purely as the success of some countermeasures cannot be quantified and therefore no calculation can justify such a measure. The practitioner should rather focus on the reduction of probabilities and frequencies of risk events occurring. In this phase, the recommendations are constructed and presented to the risk owner for decision and implementation.

5. Determine the risk management application and recommendation phase

After countermeasures are designed, the risk practitioner should consult the risk owner before proceeding to implement the measures. This is to determine if risks identified are outside or within the risk appetite of the risk owner (keep the asset/activity or terminate the activity). It is possible that the risk owner would terminate the risk activity at this stage.

If not, this phase continues with the determination of the risk managing method and its application. The main risk management methods are: risk avoidance, reduction, transfer or acceptance. Some risk practitioners refer to the four T's which are risk tolerance, transfer, treat or termination. Regardless of the terminology used, the decision needs to be made by the risk owner according to the risks identified. Once all the above information is compiled and analysed, the formulation of proper recommendations is made and presented to the risk owner. The experience of the risk practitioner should guide the decisions of the risk owner through recommendations.

6. Implementation phase

The recommendations may be accepted or the need for further analysis before implementation may arise. After recommendations are made, discussed and debated, an implementation plan can be presented. This will require a timeline in order to commit the risk practitioner and risk owner to resolve the matter. During this phase, if necessary, the risk could be prioritised to indicate the sequence of the countermeasures to be implemented. Should funding be required for implementation, it will be acquired during this phase.

7. Evaluation and adjustment phase

This phase requires the evaluation of the countermeasures to determine their effectiveness. The researcher believes a major flaw in any security risk management programme is the failure to immediately evaluate a countermeasure after its implementation. It may happen that the measure is impractical within the business model and therefore needs adjustment. Early detection of such a defect prevents any unnecessary impact on the business operation or financial loss. Any inconsistencies or defects must be reported and adjusted.

8. Monitoring phase

After the implementation and evaluation, a monitoring phase takes place for a period which should be predetermined by the risk practitioner and risk owner. This is to ensure the countermeasures are performing at the optimum level of the design. Monitoring coincides with reporting therefore the status of the security programme should be formulated in a report.

9. Re-evaluation phase

To ensure value is added to the entire security risk management programme, a re-evaluation of the risk assessment process must be conducted after a determined period. The motivation is based on possible changes in environments as security measures improve or fail. The contribution of crime prevention strategies (vide section 4.3) and their possible successes may contribute to the decline in certain crime and security risk expenditures and this necessitates the re-evaluation of the risk management programme after a pre-determined period.

Reporting

Formal reporting is not a separate phase as it is applicable within each phase. This is vital to ensure any progress made is recorded and for audit purposes. However, it is recommended that a final report is submitted at the end of the entire project.

6.6.2 Recommendations for Risk Practitioners

6.6.2.1 Training

Training remains an essential tool to guide an individual to complement the business image and increase his/her effectiveness particularly for security officers who deal with tourists daily. Further training can enhance the ability of security practitioners. The findings in this study indicated that most security risk managers do not have a formal qualification in this regard.

6.6.2.2 Application of security risk management

A clear understanding of security risk management and its application must be created. The researcher believes that the risk management model (vide 6.6.1) provides guidance to security practitioners. This includes the proper understanding of threats and risks and how to identify them. The crime reduction model (vide Image 2) indicates the necessity for more regular risk assessments in the application of security programmes.

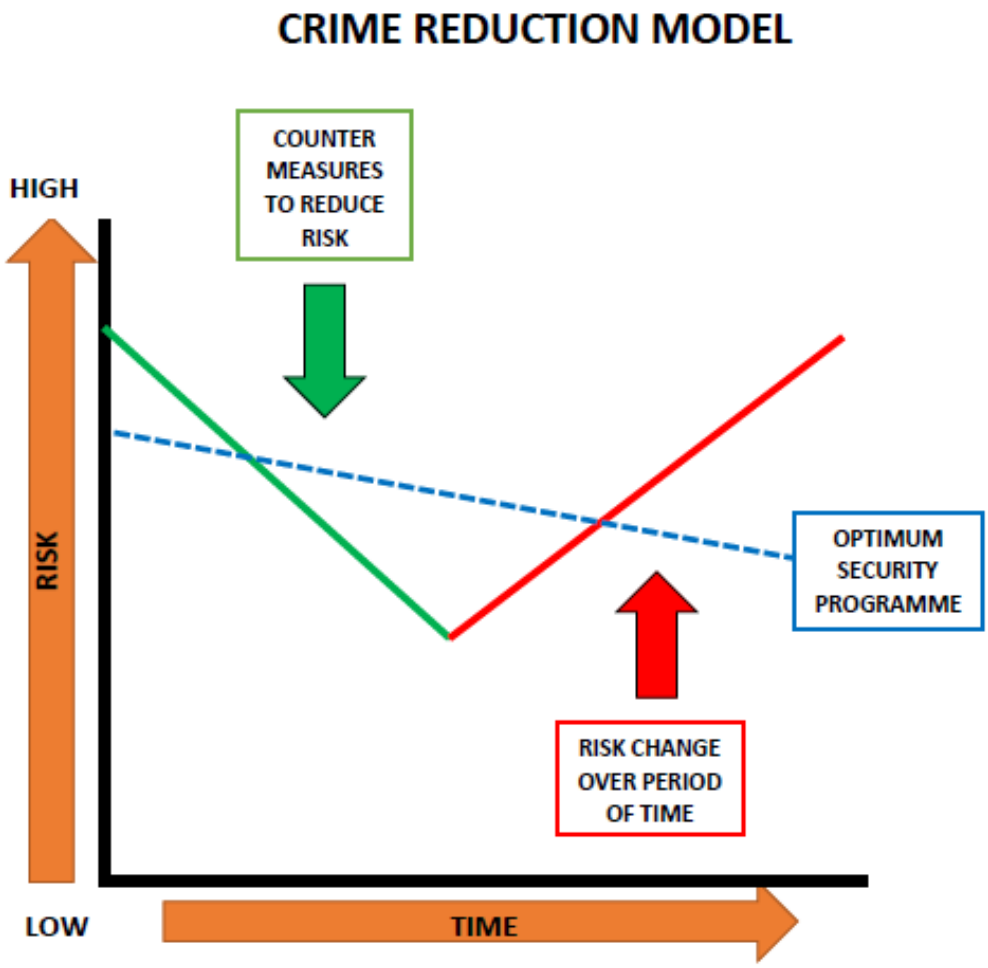
Definition application: Risk mitigation vs risk reduction

The motivation of this is established throughout the research study with reference to

any crime experienced by a foreign visitor that could have a severe impact on the business. Thus, no mitigation measures can be applied before a crime occurs. Crime reduction, on the other hand, reduces the opportunity, ability and desire (vide section 5.3.3.9) to commit a crime. The main objective of a security plan is to reduce and eliminate the three elements of crime causation factors to prevent crime occurring and not to soften (mitigate) the opportunity, ability or desire. Landoll (2006:35) explains that the entire risk mitigation phase forms part of the security risk assessment process. He believes that the objective of this phase is to develop safeguards or countermeasures to reduce risks to an acceptable level (Landoll, 2006:35).

With this definition in mind, emphasis should be placed on the reduction of risk. Thus, the researcher is focused on risk reduction and applies this term rather than risk mitigation, which the researcher believes can only occur after the fact or after a crime occurred.

Image 3: Crime reduction model



Adapted from Landoll (2006:13)

The crime reduction model illustrates the level of an optimum security countermeasure programme and highlights the importance of regular risk assessments. With the conscious decision of CPGRs to retain certain activities, the acceptance of risk is a reality and therefore an inherent risk (vide section 3.4.3). The risk practitioner will introduce risk reduction measures to counter this risk. The remainder of the risk will therefore be a residual risk.

The model indicates that, with proper security countermeasures and implementation thereof, the risk reduces from a high risk to a low risk. It further indicates that, as time passes, the criminal will adapt and overcome the countermeasures, as a new modus operandi is explored that will have an increased success rate of committing the crime.

An optimal security risk management programme should keep risks within the risk appetite level of the organisation over an extended period of time and therefore the perceived risks should stabilise and reduce over time (therefore the decline as illustrated) or ultimately eliminate them. Unfortunately, the reality is that the risk level does not stabilise as new risks emerge, countermeasures become out dated and business models change, to name a few factors.

6.6.2.3 Motivators for staff not to commit crime

The research proved that some properties do not use any form of training or supervision as motivation. As indicated, motivation is necessary to uplift an individual and is an important contribution to enhance his/her output. Security practitioners should investigate and identify the most valuable forms of motivation through supervision, financial means or self-actualisation.

6.6.2.4 Crime prevention

The most critical contribution a SRM can make to the safekeeping of a CPGR is through a proper crime prevention strategy. The crime prevention plan should be holistic in approach and include the use of intelligence sources (within and outside the CPGR). The crime prevention plan should complement the sustainable strategy of a CPGR. Properties should get involved with current crime prevention strategies and should partake in community patrols (such as farm watches). The best crime prevention strategy is to displace crime away from your area through a (crime free) buffer zone.

6.6.3 Recommendations for CPGRs

6.6.3.1 Community upliftment

Through the establishment and assessment of sustainable tourism and corporate responsibility, the need for community upliftment is identified. As part of a strategy complementing crime prevention, community upliftment may present multiple benefits. CPGRs should further ensure community upliftment and strengthen community cohesion through programmes, education, employment and other projects.

6.6.3.2 Alternative source of income

As financial strain become a daily reality, alternative sources of income should be explored to ensure a CPGR remains a source of conservation and maintain escalating security costs. CPGRs with expensive security programmes would find it beneficial to subsidise this expenditure or even increase their ability to protect their visitors, staff, fauna and flora. These sources include providing multiple activities such as hunting, game breeding and game sales.

6.6.3.3 Security and conservation awareness programmes

The researcher believes that there is a need for security and conservation awareness programmes to rectify the past and ensure that a future through education is created. Education should not be limited to conservation only but should branch out to the identification of crime and crime causing factors. When a security awareness programme and community uplifting project are conducted simultaneously, they could be complementary each other.

Security awareness programmes should be established internally and should include all staff members. If a staff member feels valued by the organisation, he/she will feel an obligation to protect the game reserve from any harm. Therefore, provided the necessary basic understanding of security, crime, conservation and other relevant information is presented to all staff members, the potential to expand the crime detection barrier is established. Any CPGR wants to detect, deter and deny crimes occurring at their reserves and defend their business and the more staff are involved, the more chance of success is created.

6.6.3.4 Continuous vetting

The research indicated a security weakness pertaining to staff vetting. This should be addressed with urgency. All staff members should be vetted annually. The vetting should include criminal and financial aspects. Staff vetting must be aligned with employment policies. One participant indicated they also screen (vet) contractors and this should be included in the overall vetting strategy. Through this strategy, a CPGR can create a list of preferred service providers or contractors and thus reduce unwanted people entering the reserve.

6.6.4 Recommendations from participants

Many participants indicated more government support is required. This may vary from tourist visa policies to environmental crime legislation interventions. Government support is also required through more initiatives and assistance such as the EPWP. Government should recognise tourism as a valuable source of income and employment creator and invest in it accordingly. Crime in SA should be prioritised to ensure the tourist market can expand and that tourists are safe.

6.7 RECOMMENDATIONS FOR FURTHER RESEARCH

This research study is unique as it is exploratory in this subject. Some research has been conducted before on the influence of crime and its effects on tourism. The researcher identifies recommendations for future scientific research based on this research study:

- A qualitative study to analyse security measures on commercial private game reserves in other provinces to compare findings. This will increase findings to provide a large-scale comparison and generalisation.
- A qualitative study of provincial or national game reserves to analyse the effect of crime based on their business model. This will provide a more accurate comparison with state owned reserves versus private reserves and analyse the impact of crime on such.
- A quantitative study aimed at the tourist experience to assess the impact of crime and its role has on the decision-making process. Many factors exist, and much research has been done on the factors influencing the destination choice of tourists, however, a better understanding can contribute to marketing strategies of CPGRs.

6.8 CONCLUSION

This chapter commenced with a summary of key findings in accordance with the research question posed in Chapter 1 to fulfil the achievement of the research aims and objectives. Furthermore, two models were created to assist CPGRs in crime reduction and security risk management. From the onset of the research study, the

intention was to analyse security measures implemented on commercial private game reserves in the Limpopo Province of South Africa. The findings identified security measures, analysed the measures and recognised security weaknesses. These security vulnerabilities were addressed through recommendations made by the researcher. The researcher acknowledges some research limitations and indicates that these limitations should be considered for future research endeavours. He includes recommendations for further research to enhance the field of research and to expand the security science applied to other industries.

Throughout the research study, the researcher depended on his understanding of security risk management principles as a baseline to analyse the application of security measures on CPGRs. Some discrepancies and shortcomings between academic literature and its practical application specifically aimed at CPGRs are evident. This study, with the use of research methodology, aimed to analyse this complex situation. A CPGR is a specialised practice and the application of normal security fundamentals and countermeasures are challenging. The study creates the awareness that more in-depth research is required to enhance the security of a fragile industry.

Tourism and security are intertwined within game reserves as the one exists due to the other and if one fails, the other will fail. This study concludes by emphasising the important role CPGRs play within the tourism industry of SA through conservation and employment. The contributions security risk management make are highlighted to strengthen the symbiotic relationship between tourism and security.

LIST OF REFERENCES

Anon. (2018). #CrimeStats: Ten years of murder in South Africa in one terrifying graphic. Available at: https://www.timeslive.co.za/news/south-africa/2018-09-11-crimestats-ten-years-of-murder-in-south-africa-in-one-terrifying-graphic (Accessed on 11 November 2019).

Babbie, E. (2010). *The practice of social research* (12th ed.). Wadsworth: Cengage Learning.

Balmford, A., Beresford, J., Green, J., Naidoo, R., Walpole, M. & Manica, A. (2009). A Global Perspective on Trends in Nature-Based Tourism. *Plos Biology*, 7(6):e1000144.

Balogun, T.F., Okeke, H. & Chukwukere, C.I. (2014). Crime mapping in Nigeria using GIS. *Journal of Geographic Information System*, 6:453-466.

Barbour, R.S. (2008). *Introducing Qualitative Research: A Students Guide to the Craft of doing Qualitative Research*. Thousand Oaks, CA: Sage.

Barichievy, C., Munro, L., Clinning, G., Whittington-Jones, B. & Masterson, G. (2017). Do armed field rangers deter rhino poachers? An empirical analysis. *Biological Conservation*, 209:554-560.

Barr, R. & Pease K. (1990). Crime Placement, Displacement and Deflection. *Crime and Justice*, 12:277-318.

Berg, B.L. (2007). *Qualitative research methods for the social sciences* (6th ed.). Boston, MA: Pearson Education Inc.

Bewick, K.D. (2013). *Security manual for game reserves and provincial nature reserves carrying rhino populations*. Anti-poaching Intelligence Group Southern Africa.

Bolz, F., Dudonis, K.J. & Schulz, D.P. (1990). *The Counter-Terrorism Handbook: Tactics, Procedures and Techniques.* New York: Elsevier Science Publishing.

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative*

Research in Psychology, 3(2):77-101.

Büscher, B. & Fletcher, R. (2018). Under Pressure Conceptualising Political Ecologies of Green Wars. *Conservation and Society*, 16(2, Special Section: Green Wars):105-113.

Businesstech. (2019). The number of police officers vs security guards in South Africa. Available at: https://businesstech.co.za/news/government/325093/the-number-of-police-officers-vs-security-guards-in-south-africa (Accessed on 11 November 2019).

Caboz, J. (2018). A game reserve bordering the Kruger built a high-tech fortress the size of a major city – and reduced poaching by 96%. Available at: https://www.businessinsider.co.za/a-private-reserve-on-the-borders-of-the-kruger-stopped-poaching-in-its-tracks-2018-5 (Accessed on 11 November 2019).

Caplan, J.M, Kennedy, L.W. & Miller, J. (2011). Risk Terrain Modeling: Brokering Criminological Theory and GIS Methods for Crime Forecasting. *Justice Quarterly*, 28(2):360-381.

Clifford, M. & Edwards, T.D. (Eds.). (2012). *Environmental crime*. Burlington, MA: Jones and Bartlett Learning.

Cohen, S. (2017). Democratic Grassroots Politics and Clean Economic Growth. *Journal of International Affairs*, 71(1, The Democracy Issue):103-116.

Collins English Dictionary. (2012). S.v. "hectare". Available at: https://www.collinsdictionary.com/dictionary/english/hectare (Accessed on: 27 October 2019).

Cornelissen, C. (2019). Kuiergas skiet rower by oord in reservaat dood. Available at: https://maroelamedia.co.za/nuus/sa-nuus/kuiergas-skiet-rower-by-oord-in-reservaat-dood (Accessed on 11 November 2019).

Cousins, J.A., Sadler, J.P. & Evans, J. (2008). Exploring the role of private wildlife ranching as a conservation tool in South Africa: Stakeholders' Perspective.

Ecology and Society, 13(2):43.

Creswell, J.W., Hanson, W.E. & Clark, V.L.P. (2007). Qualitative research designs: Selection and implementation. *The Counselling Psychologist*, 35(2):236-264.

Crous, M. (2019). The two African countries international tourist are now choosing over South Africa. Available at: https://www.traveller24.com/Explore/BusinessTravel/the-two-african-countries-international-tourists-are-now-choosing-over-south-africa-20191104 (Accessed on 11 November 2019).

Dantzker, M.L. & Hunter R.D. (2006). *Research methods for criminology and criminal justice: A primer*. Burlington, MA: Jones and Bartlett Publishers.

De Beer, A.A. 2005. Managing within the new economy. In Rossouw, D. & Louw, H. (Eds.), *Focus on management principles: A generic approach*. Lansdowne: Juta & Co. Ltd:3-17.

Defenceweb. (2019). Police reservists sought to combat rural crime. Available at: https://www.defenceweb.co.za/featured/police-reservists-sought-to-combat-rural-crime (Accessed on 18 December 2019).

Denscombe, M. (2002). *Ground rules for Good Research: A 10 point guide for social research*. Maidenhead: Open University Press.

Denscombe, M. (2007). *The good research guide for small-scale social research projects* (3rd ed.). Maidenhead: Open University Press.

Department of Public Works and Infrastructure. (2018). Available at http://www.epwp.gov.za (Accessed on 2 November 2019).

De Vos, A., Strydom, H., Fouché, C.B. & Delport, C.S.L. (2011). *Research at grass roots: For the social sciences and human service professions* (4th ed.). Pretoria: Van Schaik Publishers.

Douglas, L.R. & Alie, K. (2014). High-value natural resources: Linking wildlife conservation to international conflict, insecurity and development concerns. *Biological Conservation*, 171:270-277.

Edgell, D.L. (2006). *Managing Sustainable Tourism: A Legacy for the Future*. New York: The Haworth Hospitality Press.

Edgell, D.L. (2016). *Managing Sustainable Tourism: A Legacy for the Future* (2nd ed.). New York: Routledge.

Elo, S. & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, 62(1):107-115.

Elo, S., Kääriäinen, M., Kantse, O., Pölkki, T., Utriainen, K. & Kyngäs, H. (2014). *Qualitative content analysis: A focus on trustworthiness*. Thousand Oaks, CA: Sage.

Ester, J.G.C. (2003). International Tourism in Africa. *Tourism Economics*, 9(2):203-221.

Fay, J.J. (2011). *Contemporary security management* (3rd ed.). New York: Elsevier.

Ferreira, S.L.A. & Harmse, A.C. (2000). Crime and Tourism in South Africa: International Tourists Perception and Risk. *South African Geographical Journal*, 82(2):80-85.

Ferreira, S.L.A. (1999). Crime: A threat to tourism in South Africa. *Tourism Geographies*, 1:3:313-324.

Fischer, R.J. & Green, G. (1992). *Introduction to Security* (5th ed.). Stoneham: Butterworth-Heinemann.

Fouché, C.B., Delport, C.S.L. & De Vos, A.S. (2011). Quantitative research designs. In De Vos, A.S., Strydom, H., Fouché, C.B. & Delport, C.S.L. (Eds.), *Research at grassroots: For the social sciences and human service professions* (4th ed.). Pretoria: Van Schaik:142-158.

Fouché, C.B. & Delport, C.S.L. (2011). Introduction to the research process. In De Vos, A.S., Strydom, H., Fouché, C.B. & Delport, C.S.L. (Eds.), *Research at grassroots: For the social sciences and human service professions* (4th ed.). Pretoria: Van Schaik: 61-76.

Fouché, C.B. & Delport, C.S.L. (2011). In-depth review of literature. In De Vos, A.S., Strydom, H., Fouché, C.B. & Delport, C.S.L. (Eds.), *Research at grassroots: For the social sciences and human service professions* (4th ed.). Pretoria: Van Schaik: 133-141.

Fouché, C.B. & Schurink, W. (2011). Qualitative research designs. In De Vos, A.S., Strydom, H., Fouché, C.B. & Delport, C.S.L. (Eds.), *Research at grassroots: For the social sciences and human service professions* (4th ed.). Pretoria: Van Schaik: 307-320.

Gast, D.L. (2010). *Single subject research methodology in behavioural sciences*. New York: Routledge.

Gallagher, K. (2012). The Use of Checklists in Research. Available at: https://www.insidehighered.com/blogs/gradhacker/use-checklists-research (Accessed on 9 January 2020).

George, R. (2003). Tourists' perceptions of safety and security while visiting Cape Town. *Tourism Management*, 24:575-585.

Gosling, J. (2014). The Global Initiative against Transnational Organized Crime. The Global Response to Transnational Organized Environmental Crime. Available at http://www.stoprhinopoaching.com/UploadedFiles/Knowledge/Global%20Initiative%20-%20Organized%20Environmental%20Crime%20-%20Baseline%20Assessment%20-%20June%202014.pdf (Accessed on 13 September 2019)

Gosling, M. (2006). Future of SA's green court in the balance. Available at: https://www.iol.co.za/news/south-africa/future-of-sas-green-court-in-the-balance-274307 (Accessed on 26 April 2019).

Greef, M. (2011). Information collection: interview. In De Vos, A.S., Strydom, H., Fouché, C.B. & Delport, C.S.L. (Eds.), *Research at grassroots: For the social sciences and human service professions* (4th ed.). Pretoria: Van Schaik:341-374.

Gous, N. (2018). Security costs for preventing poaching strain conservation budgets.

Available at: https://www.businesslive.co.za/bd/national/2018-07-31-security-costs-for-preventing-poaching-strain-conservation-budgets (Accessed on 26 April 2019).

GCIS. (2017). South Africa Yearbook 2016/2017 Tourism: Tourism. Available at: https://www.gcis.gov.za/sites/default/files/docs/resourcecentre/yearbook/Tourism2017.pdf (Accessed on 13 September 2019).

Herbig, F.J.W. & Joubert, S.J. (2006). Criminological semantics: Conservation criminology – vision or vagary? *Acta Criminologica: Southern African Journal of Criminology*, 19(3):88-103.

Herbig, J.W & Warchol, G. (2011). South African conservation crime and routine activities theory: A casual nexus? *Acta Criminologica*, 24(2):1-16.

Herbig, J.W. & Griffiths, M.L. (2016). Conservation crime and rhinoceros poaching: From ancient custom to modern dilemma. *Acta Criminologica: Southern African Journal of Criminology*, 29(1):129-142.

Hill, B. & Paynich, R. (2014). *Fundamentals of Crime Mapping*. Burlington: Jones and Barlett Learning.

Hübschle, A. & Faull, A. (2017). Editorial: Organised environmental crimes: Trends, theory, impact and responses. *South African Crime Quarterly*, 60. Available at https://journals.assaf.org.za/sacq/article/view/2770 (Accessed on 13 September 2019)

Hübschle, A. & Shearing, C. (2018). *Ending wildlife trafficking: Local communities as change agents*. Geneva: The Global Initiative Against Transnational Organized Crime.

Hughes, G., McLaughlin, E. & Muncie J. (Eds.). (2002). *Crime Prevention and Community Safety.* Thousand Oaks, CA: Sage.

Ishmail, S. (2019). Crime likely to affect forthcoming tourist season. Available at https://www.iol.co.za/capeargus/news/crime-likely-to-affect-forthcoming-tourist-season-33192258 (Accessed on 11 November 2019).

Irving, J. (2018). Balancing Land Use Trade-offs: The Role of Wilderness in Nature Conservation. In Thackway, R. (Ed.), *Land Use in Australia: Past, Present and Future*. Acton, Australia: ANU Press:107-113.

Jenkins, B.D. (1998). *Security Risk Analysis and Management*. A White Paper. Countermeasures Inc:1-16. Available at: https://www.nr.no/~abie/RA_by_Jenkins.pdf

Johnson, M.F., Karanth, K.K. & Weinthal, E. (2018). Compensation as a Policy for Mitigating Human-wildlife Conflict Around Four Protected Areas in Rajasthan, India. *Conservation and Society*, 16(3):305-319.

Johnston, L. & Shearing, C. (2003). *Governing Security: Explorations in Policing and Justice*. London: Routledge.

Joubert, C. (Ed.). (2001). *Applied law for police officials* (2nd ed.). Lansdowne: Juta Law.

Kiper, T. (2013). Role of Ecotourism in Sustainable Development. In Ozyavuz, M. (Ed.), *Advances in Landscape Architecture*. Available at: http://dx.doi.org/10.5772/55749

Kovacich, G.L. & Halibozek, E.P. (2003). *The Manager's Handbook for Corporate Security: Establishing and Managing a Successful Assets Protection Program.* New York: Butterworth Heinemann.

Lab, S.P. (2004). *Crime Prevention: Approaches, practices and evaluations* (5th ed.). Nantucket, MA: Anderson Publishing.

Lab, S.P. (2010). *Crime Prevention: Approaches, practices and evaluations* (7th ed.). Nantucket, MA: Anderson Publishing.

Landoll, D.J. (2006). *The Security Risk Assessment Handbook: A Complete Guide for Performing Security Risk Assessments*. Boca Raton, FL: Auerbach Publications.

Landoll, D.J. (2011). *The Security Risk Assessment Handbook: A Complete Guide for Performing Security Risk Assessments*. Boca Raton, FL: CRC Press.

Limpopo-info. ([Sa]). Available at: https://www.limpopo-info.co.za/provinces/info (Accessed at 26 June 2019).

Limpopo Provincial Government. (2019). Limpopo Socio-economic review and outlook 2018/2019. Provincial treasury. Available at: http:// http://www.limtreasury.gov.za/lim_admin_trea/pages/sites/treasury_lim/documents/budet_statement/Limpopo_Socio-Economic_Review_and_Outlook_202018-19.pdf. (Accessed on 29 November 2018).

Linacre, A. (2009). *Forensic Science in Wildlife Investigations.* New York: CRC Press.

Lubbe, B. (2000). *Tourism distribution: Managing the travel Intermediary*. Kenwyn: Juta & Co.

Lubbe, B.A., Du Preez, E.A., Douglas, A. & Fairer-Wessels, F. (2019). The Impact of Rhino poaching on Tourist Experiences and Future Visitations to National Parks in South Africa. *Current Issues in Tourism*, 22(1):8-15.

Lunstrum, E. (2017). Feed them to the lions: Conservation violence goes online. *Geoforum*, 79:134-143.

Maguire, M. & Delahunt, B. (2017). Doing a thematic analysis: A practical, step-by-step guide for learning and teaching scholars. *All Ireland Journal of Teaching and Learning in Higher Education*, 8(3):3351-3354.

Maree, K. (2007). *First steps in research.* Pretoria: Van Schaik Publishers.

McCrie, R.D. (2002). *Readings in security management: Principles and practices*. Alexandria: ASIS International.

McCrie, R.D. (2007). *Security operations management* (2nd ed.). New York: Elsevier Inc.

McIntosh, R.W., Goeldner C.R. & Ritchie, J.R. (1995). *Tourism: Principles, Practices, Philosophies*. New York: John Wiley & Sons, Inc.

McLaughlin, E. & Muncie J. (2001). *Controlling Crime* (2nd ed.). Thousand Oaks, CA: Sage.

McSkimming, M.J. & Berg, B.L. (2008). Motivations for Citizen Involvement in a Community Crime Prevention Initiative: Pennsylvania's TIP (Turn in a Poacher) Program. *Human Dimensions of Wildlife*, 13(4):234-242.

Mdluli, B.D. (2011). *Fundamentals of security vetting in a democratic South Africa*. Cape Town: BM Consultants.

Minnaar, A. & Herbig, F. (2018). The impact of conservation crime on the South African rural economy: A case study of rhino poaching. *Acta Criminologica: Southern African Journal of Criminology*, 31(4):147-168.

Minnaar, A. (2011). The use of informers: An essential tool in the fight against Crime? *Acta Criminologica: Southern African Journal of Criminology*, 24(3):83-97.

Mogomotsi, G.E.J. & Madigele, P.K. (2017). Live by the gun, die by the gun: Botswana's 'shoot to kill' policy as an anti-poaching strategy. *South African Crime Quarterly*, 60:51-59.

Molak, V. (1997). *Fundamentals of Risk Analysis and Risk Management*. Florida: Lewis Publishers.

Moreto, W.D. & Pires, S.F. (2018). *Wildlife crime: An environmental criminology and crime science perspective*. Durham: Carolina Academic Press.

Mouton, J. (2001). *How to succeed in your Master's and Doctoral studies: A South African guide and resource book*. Pretoria: Van Schaik Publishers.

Mowforth, M. & Munt, I. (2016). *Tourism and sustainability*. New York: Routledge.

Moyo, B. & Ziramba, E. (2013). The impact of crime on unbound tourism to South Africa. *African Security Review*, 22(1):4-18.

Naidoo, R., Fisher, B., Manica, A. & Balmford, A. (2016). Estimating Economic Losses to Tourism in Africa from Illegal Killing of Elephants. *Nature Communications*, 7:13379. DOI:10.1038/ncomms13379

Nemeth, C.P. (2010). *Homeland Security: An introduction to principles and practice.* Boca Raton, FL: Taylor and Francis Group.

Neuman, W.L. (2011). *Social research methods: Qualitative and quantitative approaches* (7th ed.). Boston: Pearson Education Inc.

Nowell, L.S., Norris, J.M., White, D.E. & Moules, N.J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods*, 16:1-13.

Nurse, A. (2015). *Policing Wildlife: Perspectives on the enforcement of wildlife legislation*. Basingstoke: Palgrave Macmillan

Oatman, R.L. (2006). *Executive Protection: New solutions for a new era*. Baltimore, MD: Noble House.

Omarjee, L. (2019). Unemployment hits highest level in more than 11 years. Available at: https://www.fin24.com/Economy/South-Africa/breaking-unemployment-hits-highest-level-in-more-than-11-years-20191029 (Accessed on 11 November 2019).

Ortmeier, P.J. (2013). *Introduction to security operations and management* (4th ed.). Boston, MA: Pearson Education.

Paulsen, D.J. & Robinson, M.B. (2004). *Spatial Aspects of Crime: Theory and Practise.* Boston, MA: Pearson Education Inc.

Perry, E.C. & Potgieter, C. (2013). Crime and Tourism in South Africa. *Journal of Human Ecology*, 43(1):101-111.

Phakathi, B. (2018). Bring back the 'green' courts, ministry urges. Available at: https://www.businesslive.co.za/bd/national/science-and-environment/2018-08-14-bring-back-the-green-courts-ministry-urges (Accessed on 26 April 2019).

Poulin, K.C. & Nemeth, C.P. (2005). *Private security and public safety: A community-based approach*. Boston, MA: Pearson Prentice Hall.

Pratt, T.C. & Cullen, F.T. (2000). The empirical status of Gottfredson and Hirschi's general theory of crime: A meta-analysis. Criminology, 38(3):931-964.

Punch, K.F. (2006). *Developing effective research proposals* (2nd ed.). Thousand

Oaks, CA: Sage.

Pyatt, J. (2019). Holiday bloodbath. Pregnant mum hacked to death as she slept and husband savagely stabbed in front of son, 2, on luxury South Africa beach holiday. *The Sun.* Available at: https://www.thesun.co.uk/news/9954472/pregnant-mum-murdered-hotel-south-africa (Accessed on 25 September 2019).

Rausand, M. (2011). *Risk assessment: theory, methods and applications.* Hoboken, NJ: John Wiley & Sons.

Rayner, T. & Pires, A. (2016). Protecting highly threatened South African cycads from extinction: A new approach. *Veld & Flora*, 102(1):14-16.

Remenyi, D. (2013). *Case study research: The quick guide series*. Reading: Academic Conferences and Publishing International Limited.

Rogerson, C. (2007). Reviewing Africa in the Global Tourism Economy. *Development Southern Africa*, 24(3):361-379.

Rossman, G.B. & Rallis, S. (2012). *Learning in the field: An introduction to qualitative research.* Thousand Oaks, CA: Sage.

Rossmo, D.K. (2000). *Geographic Profiling*. Boca Raton, FL: CRC Press.

Rossouw, D. (2005). Management functions. In Rossouw, D. & Louw, H. (Eds.), *Focus on management principles: A generic approach*. Lansdowne: Juta & Co. Ltd:16-29.

Rossouw, D. & Louw, H. (Eds.). (2005). *Focus on management principles: A generic approach*. Lansdowne: Juta & Co. Ltd.

Saayman, A. & Saayman, M. (2008). Determinants of inbound tourism to South Africa. *Tourism Economics*, 14(1):81-96.

SALGA. (2017). Provincial Overviews, Limpopo. Available at: https://www.salga.org.za/About%20Us%20LO.html (Accessed on 25 April 2019).

SAPS. (2019). *National Rural Safety Strategy*. Available at: :https://www.saps.gov.za/resource_centre/publications/national_rural_safety_strategy_2019.pdf (Accessed 18 December 2019).

Saunders, G. (2019). A foundation for South Africa growth: Southern and East African Tourism Update. Available at: http://www.tourismupdate.co.za/news/column/195723/A-foundation-for-South-African-tourism-growth (Accessed on 11 November 2019).

SA-Venues. (1999). Limpopo Tours. Available at: https://www.sa-venues.com/limpopo-tours.php (Accessed on 25 April 2019).

Schurink, W., Fouché, C.B. & De Vos, A.S. (2011). Qualitative data analysis and interpretation. In De Vos, A.S., Strydom, H., Fouché, C.B. & Delport, C.S.L. (Eds.), *Research at grassroots: For the social sciences and human service professions* (4th ed.). Pretoria: Van Schaik: 397-323.

Simonsen, C.E. (1998). *Private Security in America: An introduction.* Hoboken, NJ: Prentice-Hall.

Sims-Castley, R., Kerley, G.I.H., Geach, B. & Langholz, J. (2005). Socio-economic significance of ecotourism-based private game reserves in South Africa's Eastern Cape Province. Protected Areas Programme Vol 15 No 2 Private Protected Areas. IUCN, Gland, Switzerland. Produced by the Nature Bureau, UK.

Slabbert, D. (2019). StatsSA figures show drop in tourist numbers: Southern and East African Tourism Update. Available at: http://www.tourismupdate.co.za/article/196558/StatsSA_figures_show_drop_in_tourist_numbers (Accessed on 11 November 2019).

Smit, P.J.G. & Cronje, J. de J. (1992). *Management Principles: A Contemporary South African Edition*. Cape Town: Juta.

Smit, P.J., Cronje, G.J. de J., Brevis, T. & Vrba, M.J. (2007). *Management Principles: A Contemporary Edition for Africa* (4th ed.). Cape Town: Juta & Co.

Smith, C. (2019). SA tourism hamstrung by safety and security issues. Available at: https://www.fin24.com/Economy/sa-tourism-hamstrung-by-safety-and-security-issues-20191120 (Accessed on 11 November 2019).

Snyman, C.R. (2008). *Criminal Law* (5th ed.). Durban: LexisNexis.

STATSSA. (2018a). Economic Analysis. Tourism Satellite Account for South Africa, final 2014 and provisional 2015 and 2016. Available at: http://www.statssa.gov.za/publications/Report-04-05-07/Report-04-05-072016.pdf. (Accessed on 13 September 2019).

STATSSA. (2018b). Statistical Release P0351. Tourism and migration. March 2018. Available at: http://www.statssa.gov.za/publications/P0351/P0351March2018.pdf. (Accessed on 13 September 2019).

STATSSA. (2018c). Statistical Release P6410. Tourist accommodation. Available at: http://www.statssa.gov.za/publications/P6410/P6410August2018.pdf. (Accessed on 13 September 2019).

STATSSA. (2019a). Statistical Release P0351. Tourism and migration. Available at: http://www.statssa.gov.za/publications/P0351/P0351August2019.pdf. (Accessed on 5 December 2019).

STATSSA. (2019b). Statistical Release P6410. Tourist accommodation. Available at: http://www.statssa.gov.za/publications/P6410/P6410August2019.pdf. (Accessed on 5 December 2019).

Stees, J.D. (1998). *Outsourcing Security: A guide for contracting services*. Woburn: Butterworth-Heinemann.

Stevens, D.J. (2003). *Applied Community Policing in the 21st Century*. Boston, MA: Prentice Hall.

Strydom, H. (2011). Sampling in the quantitative paradigm. In De Vos, A.S., Strydom, H., Fouché, C.B. & Delport, C.S.L. (Eds.), *Research at grassroots: For the social sciences and human service professions* (4th ed.). Pretoria: Van Schaik:222-

234.

Tamasang, C.T. & Tchoffo, A.F.M. (2018). Principles of Environmental Management in Cameroon. In Ruppel, O.C. & Kam Yogo, E.D. (Eds.), *Environmental law and policy in Cameroon: Towards making Africa the tree of life*. Berlin: Nomos Verlagsgesellschaft mbH:242-273.

The International Ecotourism Society. (2019). Available at: https://ecotourism.org/what-is-ecotourism (Accessed on 11 November 2019).

Tilley, N. (2009). *Crime Prevention*. Devon: Willan Publishing.

Unisa. (2014). *Policy on Research Ethics.* Pretoria: Unisa.

Van Aardt, P. (2011). Attacks force game lodges to close. Available at: https://www.news24.com/southafrica/news/attacks-force-game-lodges-to-close-20110721 (Accessed on 13 September 2019).

Van Brunschot, E.G. & Kennedy, L.W. (2008). *Risk balance and Security.* Thousand Oaks, CA: Sage.

Van der Merwe, M. & Wocke, A. (2006). An investigation into responsible tourism practices in the South African hotel industry. *South African Journal of Business Management*, 38(2):1-15.

Van der Westhuizen, J. (1990). *Security management*. Pretoria: Butterworths Professional Publishers.

Van der Westhuizen, J. (1993). *Forensic criminalistics*. Durban: Butterworths.

Wallace, A. (2009). Mapping city crime and the new aesthetic of danger. *Journal of visual culture*, 8(1):5-24.

Walsh, J. (2003). *Asset protection and security management handbook*. Los Angeles, CA: POA Publishing.

Walters, R. & Westerhuis, D.S. (2013). Green crime and the role of environmental courts. *Crime Law and Social Change*, 59(3):279-290.

Warchol, G. & Johnson, B. (2009). Wildlife Crime in the Game Reserves of South Africa: A Research Note. *International Journal of Comparative and Applied Criminal Justice*, 33(1):143-154.

Warchol, G.L. (2004). The transnational Illegal Wildlife Trade. *Criminal Justice Studies*, 17(1):57-73.

Welman, C., Kruger, F. & Mitchell, B. (2005). *Research methodology* (3rd ed.). Cape Town: Oxford University Press.

Wildlife Campus. ([sa]). Game Guard Management Course. Module 2 Component 1. Introduction to Game Guard Management. Available at: https://www.wildlifecampus.com/Courses/GameGuardManagement/GameGuardManagement/IntroductiontoGameGuardManagement/2170.pdf (Accessed on 5 December 2019).

Stoprhinopoaching. 2018. Rhino Statistics - Poached and Population Figures. Available at: http://www.stoprhinopoaching.com/pages.aspx?pagename=stats (Accessed on 8 January 2013).

Yang, C.L. & Nair, V. (2014). Risk perception study in tourism: Are we really measuring perceived risk? *Procedia: Social and Behavioral Sciences*, 144:322-327.

Yin, R.K. (1993). *Applications of case study research*. Thousand Oaks, CA: Sage.

Zainal, Z. (2007). Case study as a research method. *Jurnal Kemanusiaan*, 5(1):1-6.

ANNEXURE A: ETHICS CLEARANCE CERTIFICATE

UNISA university of south africa

UNISA CLAW ETHICS REVIEW COMMITTEE

Date 20181030

Reference: ST102 of 2018
Applicant: DG Herman

Dear Mr Herman

Decision: ETHICS APPROVAL
FROM 30 OCTOBER 2018
TO 29 OCTOBER 2021

Researcher(s): Dewald Gustav Herman

Supervisor(s): Prof AdV Minnaar

Security measures implemented on commercial private game reserves in Limpopo

Qualification: MTech (Security Management)

Thank you for the application for research ethics clearance by the Unisa CLAW Ethics Review Committee for the above mentioned research. Ethics approval is granted for 3 years.

*The **low risk application** was reviewed by the CLAW Ethics Review Committee on 30 October 2018 in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment. The decision was ratified by the committee.*

The proposed research may now commence with the provisions that:

1. The researcher will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the CLAW Committee.
3. The researcher will conduct the study according to the methods and procedures set out in the approved application.

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4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing, accompanied by a progress report.
5. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data requires additional ethics clearance.
7. No field work activities may continue after the expiry date of 29 October 2021. Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

Note:
The reference number ST102 of 2018 should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.

Yours sincerely,

PROF N MOLLEMA

Chair of CLAW ERC

E-mail: mollen@unisa.ac.za

Tel: (012) 429-8384

PROF CI TSHOOSE

Executive Dean: CLAW

E-mail: tshooci@unisa.ac.za

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ANNEXURE B: ONSITE CHECKLIST

ONSITE AUDIT CHECKLIST OF SECURITY MEASURES AT A GAME RESERVE		
Place a tick (✓) or insert a cross (X) depending on availability of the item in the appropriate box	✓/x	Comment
Security Plan for the Game Reserve		
Written policy document for game reserve security		
Operational instructions on procedures		
Any security measures in place at this game reserve		
Access controls in place for all external entry points		
Controlled access procedures in place for other staff		
Controlled access procedures in place for visitors		
Controlled access procedures in place for external maintenance personnel		

(contracted)		
Is there a perimeter fence/barricade around the game reserve?		
Is the perimeter fence electrified?		
Is an intruder alarm system installed on perimeter fence?		
Is the intruder alarm system linked to a control room?		
Is there a CCTV surveillance system installed along perimeter fence?		
Is the CCTV surveillance system linked to a control room?		
Are there regular guard patrols of the perimeter fence?		
Guarding services on the game reserve?		
Guards at every entry point to the game reserve?		
Are any of the guards armed?		

Any other poaching-prevention security measures in place?		
Any other information:		

ANNEXURE C: INTERVIEW SCHEDULE

SCHEDULE OF INTERVIEW QUESTIONS

Property number: _____

Interview number: _____

RESEARCH PROJECT*:* SECURITY MEASURES IMPLEMENTED ON COMMERCIAL PRIVATE GAME RESERVES IN LIMPOPO

SECTION A - DEMOGRAPHIC INFORMATION

Gender:

Age:

Home language:

Length of service at reserve:

Years in security/hospitality industry:

Highest Qualification: [list all post-matric]

Post/job description:

Size of the property in ha:

Distance from closest town:

Distance from closest SAPS station:

SECTION B - COMMERCIAL GAME RESERVES IN THE TOURISM INDUSTRY

What is the current [twelve-month average] occupancy rate (in percentage):

What is the split between South African and foreign visitors:

From which countries do the majority your foreign visitors come: [List only five main]

What is the maximum number of visitors allowed per day on the property:

How many staff members are employed in the hospitality section:

How many staff members are employed for reserve work/maintenance:

Have any of the visitor's experienced any incidents of crime during their visit to this game reserve:

Do any of the tourists/visitors to this game reserve express any safety concerns (fear for own physical safety):

Do you think that crime in South Africa affects the tourist/visitor numbers to your game reserve?

Do you present any crime information (orientation) to your visitors?

Do the tourists ever mention that crime forms part of their decision-making process in i) visiting South Africa if a foreign visitor; ii) visiting this game reserve:

What is your understanding about responsible tourism:

What is your understanding about civil liability:

Does the reserve have liability insurance in place?

SECTION C - SECURITY MEASURES ON GAME RESERVES

Who is responsible for the management of security on the game reserve (security manager/reserve manager):

What are the core responsibilities of the security manager (if not reserve manager)?

What is your understanding of security risks:

What is your understanding of Security Risk Management:

Are security risk assessments conducted on the GR?

If yes, how often:

What is your understanding of threats:

According to you, what are the threats that the game reserve is currently facing:

What crimes occur on the reserve:

Do you classify these crimes as serious and not serious (in terms of impact on the game reserve)?

How often do these crimes occur (daily, weekly, monthly, yearly) (List frequency)?

Do you believe that crime has an impact on visitor numbers (international/domestic)?

Do you believe that crime has an impact on the business and to what extent (severity)?

What method of managing risk do you use:

How do you recover losses experienced by the game reserve due to the incidents of crime (Insurance/Acceptance)?

What are the physical security measures in place:

What are the security technology measures in place?

In your opinion how effective are these security measure:

SECTION D - MAIN FACTORS IN THE SECURITY COUNTERMEASURE PROGRAMME

Does the GR make use of security employees?

Are they in-sourced or out-sourced (proprietary or contract):

Are they full-time (permanent) or fixed-term workers:

What are the main functions (duties and responsibilities) of the security employees:

From where are the security staff members sourced (community based or not):

From where are the reserve staff members sourced (community based or not):

From where are the hospitality staff members sourced (community based or not):

Are all employees vetted (background checked/ criminal record/credit check) before employment?

What is the required minimum qualification of the security staff:

Are they all accredited with PSIRA:

What is the average salary of security staff per annum:

What is the average salary of reserve workers per annum:

What is the average salary of hospitality workers per annum:

Do you perceive salary amount as a motivator for staff not to commit crime (1. Security staff, 2. Reserve staff and 3. Hospitality staff):

Is there funding for security training?

If so, what training is provided to security staff:

Any specialised training provided to them:

What other motivators are used to motivate security staff:

What number of security staff are currently being employed at this GR (Security staff per ha):

During a shift, is there a team leader/supervisor/manager deployed:

What kind of measuring tool is used to determine output/performance of security staff:

How do you deal with staff shortages in a shift?

Are incidents recorded in an incident register?

Are incidents consolidated in the form of monthly incident reports?

Are GIS spatial maps being used to record incident locations:

Describe your security programme in short (What measures are important to use):

What other security counter measures do you use (informants etc):

Are you part of an GR intelligence network:

What intelligence sources do you use:

Do you share security information with neighbouring reserves?

Do you receive security information from neighbouring reserves?

SECTION E - CRIME PREVENTION

What is your understanding of crime prevention:

Do you have a crime prevention strategy in place?

What is the estimated rand value spent on the security programme (per annum):

Do you think that this amount is sufficient (Please explain your answer)?

Do you make use of in-house security training programmes for other staff to mitigate crime?

Alternately do you make use of external trainers:

If so, what kind of external trainers are used:

Is the GR part of the local CPF?

Is there a community policing strategy in place?

Does the GR support and take part in community policing?

Does the GR receive funding from non-government organisations for any purpose?

Do you receive any government support [advice, training or funding] for your security plan?

What support (if any) do you expect from the government as a role player in the game reserve tourism industry:

Do you believe that government can do more to assist game reserves?

SECTION F – THE FUTURE SUSTAINABILITY FOR GR

What is your understanding of sustainable tourism:

Is the commercial game reserve industry sustainable with the current visitor numbers?

What alternative source(s) of income could a game reserve generate:

Are commercial private game reserves seen as a critical conservation tool:

Can GRs sustain their viability by maintaining the number of jobs/persons employed at this GR (In what way):

What is your understanding of corporate responsibility:

Is the reserve involved in any social responsibility programmes:

Is there a village/community established next to or near the game reserve?

In what way do the GR contribute to the local community:

Is the game reserve using security awareness programmes in the community?

In your opinion, what will ensure the future of CPGR:

ANNEXURE D: LETTER TO CONDUCT RESEARCH

UNISA college of law

TO WHOM IT MAY CONCERN

RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH FOR AN MTECH DISSERTATION

Mr Dewald Herman, (UNISA Student Number: 43471897), is currently a Masters student in the Department of Criminology & Security Science, School of Criminal Justice, College of Law at the University of South Africa (UNISA), busy with his research studies for a Masters' degree (MTech in Security Management). The title of his research topic is: **SECURITY MEASURES IMPLEMENTED ON COMMERCIAL PRIVATE GAME RESERVES IN LIMPOPO**.

Mr Herman has obtained ethical clearance from the UNISA College of Law Research Ethics Review Committee (#ref:ST102/2018) to proceed with his fieldwork research (see attached letter dated: 30 October 2018).

Accordingly, we would like to request permission for him to undertake fieldwork research and conduct interviews with your organisations/company's personnel at the Game Reserve, with a focus on the implementation of security measures for the prevention of crime and provision of safety to visitors, staff and wildlife at game reserves in the Limpopo Province.

DESCRIPTION OF THE RESEARCH PROJECT

One of the most serious aspects of overall wildlife poaching in South Africa has been the rapid increase over the past decade of the poaching of rhino for their horns. With the first substantial increase occurring in 2008 when a total of 83 rhino were killed it reached a five-year high of 668 in 2012 and broke the thousand barrier in 2013 (1 004) and an all-time high of 1 215 in 2014. It remained above the thousand mark for the years 2015-2017 and dipped, for the first time since 2013, below 1 000 in 2018 (769). This increase in specifically rhino poaching led many game reserves to implement additional security measures such as the use of anti-poaching units, tracker dogs, electric fence penetration detection devices, CCTV surveillance systems and even airplanes/drones. Irrespective of these additional security measures rhino poaching has remained at an unacceptably high level in South Africa with the Limpopo Province (excluding the Kruger National Park numbers) being one of the hardest hit of all provinces (second behind KwaZulu-Natal over the five-year period 2013-2017).

Appropriate security planning will determine the degree of security required in an organisation (Fisher and Green, 1992:110). Therefore, the need for an effective security programs exists at all private game reserves. The security manager of such a private game reserve will form an integral part of the security planning or program. McCrie (2007:27) supports this by stating that successful security operations are critical to the growth and stability of any organisation of any size and complexity.

The aim of the research is to investigate the security measures used by private game reserves in the Limpopo Province in order to measure what crime types are affecting and impacting the most on commercial game reserves – crime in general but inter alia including the poaching and/or trafficking in wildlife. The research will endeavor to ascertain the effectiveness of the security measures implemented at each selected game reserve agreeing to voluntarily participate as a site for this research. Alternately to identify shortcomings or absence of effective security measures.

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INTERVIEWS

The one-on-one interviews will be based on a Schedule of Interview Questions (see attached). Broadly the Schedule of Interview Questions will revolve around the primary research questions, inter alia:

- What are the common threats that game reserves face?
- Does the security manager apply security risk management as a management tool?
- What are the core security measures in place at your game reserve?
- How effective are these security measures in preventing any poaching (more specifically of rhino)?
- If ineffective, is the game reserve management considering implementing new/additional security measures?

CONFIDENTIALITY OF COLLECTED RESEARCH INFORMATION

All the information that is received from the participants/respondents will be treated with the utmost confidentially (i.e. respondents will remain anonymous and no reference will be made to their identity or to the organisation/company (game reserve) for which they work). Neither organisation (game reserve) nor names of individual respondents/participants will be used in the resulting research report (i.e. identities will remain unknown and protected). Participation in the research interviews/site survey questionnaire will also be on a voluntary basis (informed consent).

The final dissertation (research report) once accepted will be placed in the UNISA library and therefore in the public domain and can be accessed by interested parties.

Attached for your information, is a detailed research proposal and a draft set of interview questions and onsite observation checklist (of security measures).

If any confirmation or other information is needed, Mr Herman can be directly contacted at the following: **Tel (W): 012 429 6666 / Cell: 072 116 9274 / Email: hermadg@unisa.ac.za**. Alternatively, Prof Anthony Minnaar, Mr Herman's study supervisor, or Mrs Sarika Kader (co-supervisor) can also be directly contacted (see below for contact details).

Once permission is granted to Mr Herman to commence his field research with members of your organisation/company (game reserve), please inform him accordingly. Mr Herman will then be in touch directly with you or a representative of your organisation/company for the scheduling of any interviews with the relevant persons at the Game Reserve.

Regards

(Prof) (Mrs)

AdeV Minnaar (Ret.)
Postgraduate Supervisor

S Kader
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ANNEXURE E: PARTICIPANT CONSENT

CONSENT TO PARTICIPATE IN THE RESEARCH STUDY:

SECURITY MEASURES IMPLEMENTED ON COMMERCIAL PRIVATE GAME RESERVES IN LIMPOPO

I, _____, (participant's name), confirm that Mr Herman – the person asking my consent to take part in this research – has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read (or had explained to me) and understood the study as explained in the covering information sheet document.

I have had sufficient opportunity to ask any clarifying questions and am prepared to participate in the study.

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable).

I am aware that the findings of this study will be processed into a research report/dissertation, journal publications and/or conference proceedings, but that my participation will be kept confidential unless otherwise specified. My identity will be protected and not revealed by the researcher unless I have given such permission to be used in the study report.

I agree to the voice recording of the interview.
[strikethrough and initial by interviewee and researcher if no consent given to voice recording of interview].

I have received a signed copy of the informed consent agreement.

Research respondent/Participant Name & Surname:(Please print). [can leave blank if so desired]	
Participant's signature:	**Date:**
Researcher: Mr Dewald Herman **UNISA Student No.** 43471897	
Researcher's signature:	**Date:**

ANNEXURE F: EDITOR'S LETTER

Barbara Shaw
Editing/proofreading services
18 Balvicar Road, Blairgowrie, 2194
Tel: 011 888 4788 Cell: 072 1233 881
Email: bmshaw@telkomsa.net
Full member of The Professional Editors' Guild

To whom it may concern

This letter serves to inform you that I have done language editing, formatting and reference checking on the thesis: **AN ANALYSIS OF SECURITY MEASURES IMPLEMENTED ON COMMERCIAL PRIVATE GAME RESERVES IN LIMPOPO**
by **DEWALD HERMAN**

Barbara Shaw

29th January 2020.

ANNEXURE G: TURN-IT-IN SIMILARITY REPORT

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by

DEWALD HERMAN

submitted in accordance with the requirements for the degree of

MAGISTER TECHNOLOGIAE

in the subject

Security Management

at the

UNIVERSITY OF SOUTH AFRICA

SUPERVISOR: Mrs. Sarika Kader

February 2020